

IY  
47



MINISTRY OF HEALTH

Departmental Committee on the  
**COST OF HOSPITALS**  
and other Public Buildings

**Final Report**

The Royal Sanitary Institute  
Library.

LONDON  
HIS MAJESTY'S STATIONERY OFFICE

Price 2s. *od.* net

3780

# Departmental Committee on the COST OF HOSPITALS and other Public Buildings

## FIRST REPORT

# The Acute General Hospital

The Committee's First Report, published in February, 1937, dealt with the Acute General Hospital under the following headings:—

- I. Formation of Building Scheme.
- II. Site and General Lay-Out.
- III. The In-Patient Accommodation.
- IV. The Operating Theatre Suite.
- V. The Reception and Out-Patient Departments.
- VI. The Special Departments.
- VII. The Administrative and Certain Other General Services.
- VIII. The Residential Accommodation.
- IX. The Mortuary Block.
- X. Methods of Construction, Materials and Finishings generally.
- XI. Engineering Services.

Price 1s. 3d. net.

Post free 1s. 5d.

## His Majesty's Stationery Office

LONDON W.C.2: Adastral House, Kingsway

EDINBURGH 2: 120 George Street MANCHESTER 1: 26 York Street

BELFAST: 80 Chichester Street  
bookseller



22900390209



Med  
K50500



MINISTRY OF HEALTH

# Departmental Committee on the COST OF HOSPITALS and other Public Buildings

## Final Report

*Crown Copyright Reserved*

LONDON

PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE

To be purchased directly from H.M. STATIONERY OFFICE at the following addresses:

Adastral House, Kingsway, London, W.C.2; 120 George Street, Edinburgh 2;

15 Abchurch Lane, London, E.C.4; 1 St. Andrew's Crescent, Cardiff;

80 Chichester Street, Belfast;

or through any bookseller

1938

Price 2s. 6d. net

WELLCOME INSTITUTE LIBRARY	
Coll.	welMOMec
Call	
No.	Wt

33354890

# DEPARTMENTAL COMMITTEE ON THE COST OF HOSPITALS AND OTHER PUBLIC BUILDINGS

*(Appointed by the Minister of Health by Minute dated the 5th July, 1933.)*

## TERMS OF REFERENCE.

To consider and report on the questions of the capital cost of construction and the annual cost of maintenance of the following classes of public buildings provided by Local Authorities, viz., hospitals (including mental hospitals), public assistance institutions, mental deficiency institutions, maternity homes (including maternity departments newly constructed or added to hospitals), and baths and wash-houses, special regard being paid to (a) the establishment and periodic revision of standards; (b) modern methods of construction; and (c) the possibility of securing a reduction in present costs without impairing the efficiency of the buildings for the purposes for which they are designed.

## MEMBERSHIP OF COMMITTEE.

\*Mr. Adam Maitland, M.P. (Chairman).

Mr. J. Allcock, O.B.E., F.I.M.T.A., F.S.A.A.

†Mr. A. Strachan Bennion, F.S.I., M.I.Struct.E.

Dr. H. W. Bruce, M.D., F.R.C.S.

‡Dame Janet M. Campbell, D.B.E., M.D., M.S.

Mr. R. C. Cox, M.A., M.Inst.C.E.

Dr. J. Ferguson, M.B., D.P.H.

§Mr. Howell E. James.

Mr. J. Kirkland, O.B.E., F.R.I.B.A.

‡Dame F. Barrie Lambert, D.B.E., M.B., B.S., D.P.H., L.C.C.

Dr. T. S. McIntosh, M.A., M.D., F.R.C.P., Ed.

Mr. R. H. P. Orde, O.B.E., B.A.

Mr. L. G. Pearson, F.R.I.B.A.

Mr. A. Scott, M.B.E., F.R.I.B.A., M.I.Struct.E.

Dr. W. Rees Thomas, M.D., F.R.C.P., D.P.M.

\*\*Mr. J. A. Lawther, M.B.E. (Secretary).

---

\* Appointed by Minute dated the 25th May, 1936, in place of Sir L. Amherst Selby Bigge, Bart., K.C.B.

† Appointed by Minute dated the 8th September, 1933.

‡ Appointed by Minute dated the 13th July, 1933.

§ Appointed by Minute dated the 23rd January, 1937, in place of Mr. C. F. Roundell, C.B.E., who was appointed by Minute dated the 13th June, 1934, in place of Mr. N. B. Batterbury.

\*\* Appointed by Minute dated the 29th March, 1934, in place of Mr. J. Topping.

---

*Note.*—The estimated cost of the preparation of this Report (including the expenses of the Committee) is £566 10s. od, of which £130 10s. od. represents the estimated cost of the printing and publishing of this Report.



# CONTENTS

<i>Para.</i>		<i>Page</i>
INTRODUCTORY.		
1	Terms of Reference ... ..	I
2	Procedure... ..	I
4	Scope of this Report ... ..	I
I. THE MATERNITY DEPARTMENT.		
11	Planning the Maternity Department ... ..	4
15	Number of Beds in a Maternity Department ... ..	5
17	Size of Ward Units and Wards ... ..	6
21	Bed Space and Height of Wards ... ..	8
22	The Nursery ... ..	8
23	Ancillary Rooms ... ..	8
25	The Labour Section ... ..	9
26	Admission of Patients ... ..	9
27	Separation and Isolation Accommodation ... ..	10
28	(a) Potentially Septic Patients ... ..	10
29	(b) Suspected Sepsis after Delivery (Observation) ... ..	10
30	(c) Puerperal Sepsis ... ..	11
31	Miscellaneous ... ..	11
36	Ante-Natal Care ... ..	12
37	(1) The Clinic ... ..	12
41	(2) Ante-Natal Beds ... ..	13
42	Nursing Staff ... ..	13
43	Summary of Provision ... ..	13
II. ACCOMMODATION FOR SICK CHILDREN.		
44	Introductory ... ..	16
45	The In-Patient Accommodation ... ..	16
46	The Ward Unit ... ..	16
47	Sub-division of the Ward Unit ... ..	16
48	Ward Dimensions and Bed Space ... ..	16
52	Ancillary Rooms ... ..	17
56	Isolation Accommodation ... ..	18
57	Interchangeability of Accommodation ... ..	18
III. ACCOMMODATION FOR CASES OF CHRONIC SICKNESS.		
58	Introductory ... ..	20
60	The Chronic Hospital ... ..	20
60	General ... ..	20
61	Site and General Lay-Out ... ..	21
62	The In-Patient Accommodation ... ..	21
62	The Ward Unit ... ..	21
63	Sub-division of the Ward Unit ... ..	21
64	Ward Dimensions and Bed Space ... ..	22
67	Dayrooms ... ..	23
68	Ancillary Rooms ... ..	23
71	Special Departments ... ..	24
72	Administrative Buildings ... ..	24
73	Residential Accommodation ... ..	24
74	Mortuary Block ... ..	24
75	Methods of Construction, Materials and Finishings	
	Generally ... ..	24
76	Engineering Services ... ..	24

## IV. RESIDENTIAL INSTITUTIONS FOR PULMONARY TUBERCULOSIS.

77	Introductory ... ..	25
78	Size of Institution ... ..	25
81	Site and General Lay-Out ... ..	26
83	The Ward Unit ... ..	26
86	Bed Space and Height of Wards ... ..	27
88	Ancillary Rooms ... ..	27
90	Special Departments ... ..	28
91	Administrative Buildings ... ..	28
92	Residential Accommodation for Staff ... ..	28
93	Methods of Construction, Materials and Finishings Generally	28
94	Engineering Services ... ..	29

## V. ISOLATION HOSPITALS.

96	Introductory ... ..	30
97	Size of Hospital ... ..	30
98	Site and General Lay-Out ... ..	30
100	The Ward Unit ... ..	31
101	Bed Space and Height of Wards ... ..	31
102	Ancillary Rooms ... ..	31
103	Cubicle Block ... ..	31
105	Administrative Services and Residential Accommodation ...	32
107	Methods of Construction, Materials and Finishings Generally	32
108	Engineering Services ... ..	33

## VI. MENTAL HOSPITALS.

109	Introductory ... ..	34
116	Size of Hospital ... ..	35
117	Classes of Patients to be Provided for ... ..	36
123	Site and General Lay-Out ... ..	38
128	The Size of Ward Units... ..	40
129	The Ordinary Ward Unit ... ..	40
130	Day Space ... ..	40
131	Night Space ... ..	41
136	Ancillary Rooms in an Ordinary Ward Unit ... ..	43
138	Buildings for Special Types of Patients ... ..	45
138	Admission Hospital ... ..	45
142	Convalescent Homes ... ..	46
143	Sick Hospital ... ..	47
147	Section for Excited and Disturbed Patients ... ..	48
151	Ward Units for the Senile and Infirm ... ..	49
154	Rooms for Special Purposes ... ..	49
154	X-Ray Room ... ..	49
155	Operating Theatre ... ..	50
156	Laboratory ... ..	50
157	Dental Rooms ... ..	50
158	Hydrotherapy ... ..	50
159	Massage, Electrical and Light Treatment ... ..	50
160	Dispensary ... ..	51
161	Residential Accommodation for Staff ... ..	51
163	Official Residences ... ..	52
166	The Nurses' Home ... ..	53
169	Domestic Staff ... ..	54
170	Quarters for Male Nurses ... ..	54



<i>Para.</i>		<i>Page</i>
VI. MENTAL HOSPITALS.— <i>Contd.</i>		
171	Administrative and General Services ... ..	54
172	Official Block ... ..	55
175	Main Kitchen ... ..	56
177	Bakery ... ..	57
178	Dining Rooms for Resident and Non-Resident Staff of Different Groups ... ..	57
179	Central Stores ... ..	58
180	Laundry ... ..	58
181	Recreation Hall, Library and Gymnasium... ..	58
184	Visiting Rooms ... ..	59
185	Occupation Rooms and Workshops and Workrooms ... ..	59
187	Boiler House and Maintenance Workshops ... ..	60
188	Church ... ..	60
189	Mortuary Block ... ..	60
190	Canteen ... ..	60
191	Ward Gardens and Playing Fields ... ..	60
192	Methods of Construction, Materials and Finishings Generally	61
VII. MENTAL DEFICIENCY COLONIES.		
194	Introductory ... ..	62
196	Minimum Size of a Complete Colony ... ..	62
197	The Essential Requirements of a Colony ... ..	63
197	Indoor Physical Training ... ..	63
198	Tuck Shop (Canteen) ... ..	63
199	Hostels ... ..	63
200	Arrangement of the Various Units ... ..	64
200	Standards of Space for Patients ... ..	64
203	Number of Floors in Villas ... ..	65
205	Bedrooms—Rows of Beds ... ..	66
206	Footbaths ... ..	66
207	Lavatory Basins ... ..	66
208	Water Closets ... ..	67
209	Storage Accommodation ... ..	67
210	Sluice Rooms ... ..	68
211	Residential Accommodation for Staff ... ..	68
212	Area of Land Required ... ..	69
215	Methods of Construction, Materials and Finishings Generally	70
VIII. PUBLIC ASSISTANCE INSTITUTIONS.		
216	Introductory ... ..	71
220	ACCOMMODATION FOR OLD PEOPLE ... ..	72
224	Small Homes for the Healthy Aged ... ..	73
227	Large Homes for the Healthy Aged ... ..	74
231	Blocks for the Infirm ... ..	75
234	General ... ..	75
238	ACCOMMODATION FOR THE ABLE-BODIED AND MISCEL- LANEOUS CLASSES ... ..	76
242	CHILDREN'S HOMES ... ..	77
248	NURSERIES ... ..	78
252	CASUAL WARDS ... ..	79
255	Site and General Lay-Out ... ..	80
258	Accommodation ... ..	80
259	Additional Accommodation in Larger Wards ... ..	82
260	Administrative Provision ... ..	82
261	Construction and Finishings ... ..	82

## IX. BATHS AND WASH-HOUSES.

265	Introductory ... ..	84
271	Covered Baths versus Open Air Pools ... ..	85
280	COVERED SWIMMING BATHS ... ..	88
280	Selection of Site ... ..	88
282	General Lay-Out of Buildings ... ..	88
283	The Swimming Pool ... ..	89
283	Number of Pools ... ..	89
284	Dimensions ... ..	89
286	The Bath Hall... ..	90
286	Bath Surrounds ... ..	90
287	Accommodation for Spectators ... ..	90
288	Dressing Accommodation, etc. ... ..	91
288	Dressing Boxes and Lockers ... ..	91
290	Cleansing Rooms ... ..	91
291	Sanitary Accommodation ... ..	91
292	Children's Bath ... ..	92
293	Construction and Finish ... ..	92
297	Slipper Baths ... ..	93
300	Special Baths ... ..	93
301	Establishment Laundry ... ..	93
302	Wash-Houses ... ..	94
303	Engineering Services ... ..	94
303	Drainage ... ..	94
304	Water Supply ... ..	94
305	Boiler House ... ..	94
307	Treatment Plant ... ..	95
310	Heating ... ..	95
311	Lighting ... ..	95
312	Ventilation ... ..	96
313	OPEN AIR SWIMMING POOLS ... ..	96
313	Site and General Lay-Out ... ..	96
317	The Swimming Pool ... ..	97
317	Dimensions ... ..	97
322	Construction and Finish ... ..	98
323	Surrounds ... ..	98
325	Dressing Accommodation, etc. ... ..	98
326	Accommodation for Spectators ... ..	99
327	Engineering Services ... ..	99

328	X. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS ... ..	100
-----	--	-----

## APPENDICES.

*Appendix.*

I.	List of Witnesses from whom Evidence has been heard since the Publication of the Committee's First Report ... ..	115
II.	Sizes of Ward Units and Standards of Space in Wards and Dayrooms adopted by the Committee ... ..	116



# DEPARTMENTAL COMMITTEE ON THE COST OF HOSPITALS AND OTHER PUBLIC BUILDINGS

## FINAL REPORT.

To the Right Hon. Sir H. KINGSLEY WOOD, M.P.,  
Minister of Health.

SIR,

1. We have the honour to submit the following Final Report in discharge of the commission entrusted to us by your predecessor in office by his Minute of the 5th July, 1933. We were appointed "to consider and report on the questions of the capital cost of construction and the annual cost of maintenance of the following classes of public buildings provided by Local Authorities, viz., hospitals (including mental hospitals), public assistance institutions, mental deficiency institutions, maternity homes (including maternity departments newly constructed or added to hospitals), and baths and wash-houses, special regard being paid to (a) the establishment and periodic revision of standards; (b) modern methods of construction; and (c) the possibility of securing a reduction in present costs without impairing the efficiency of the buildings for the purposes for which they are designed".

## INTRODUCTORY.

### PROCEDURE.

2. Since the submission of our First Report, Sub-Committees investigating particular subjects coming within our terms of reference have held a total of 54 meetings, and we have sat as a full Committee on 7 occasions.

3. In Appendix I to our First Report we gave a list of witnesses who had appeared before us up to the time of the submission of that Report. Much of the evidence given by those witnesses related to subjects with which we deal in this Report. We have, however, heard a number of further witnesses, a list of whom is given in Appendix I to this Report. Other bodies and individuals have submitted memoranda which were not the subject of oral evidence, or have furnished information at our request. We desire to express our deep appreciation of the services rendered by all who have assisted us in these ways.

### SCOPE OF THIS REPORT.

4. Our First Report dealt with the Acute General Hospital, but as mentioned therein we deferred consideration of certain classes of specialised accommodation which may advantageously form Departments of General Hospitals. In this Report



we deal with the following classes of accommodation which may be planned as Departments of General Hospitals or as separate Hospitals, viz.:

Maternity Accommodation,  
Accommodation for Sick Children, and  
Accommodation for Cases of Chronic Sickness.

We also deal with the following types of public buildings covered by our terms of reference:—

Residential Institutions for Pulmonary Tuberculosis,  
Isolation Hospitals,  
Mental Hospitals,  
Mental Deficiency Colonies,  
Public Assistance Institutions, and  
Baths and Wash-houses.

5. Our terms of reference directed us to pay special regard to the following matters, namely,

- (a) the establishment and periodic revision of standards;
- (b) modern methods of construction; and
- (c) the possibility of securing a reduction in present costs without impairing the efficiency of the buildings for the purposes for which they are designed.

6. In our First Report we dealt with the matters covered by (b) and (c) above in relation to the Acute General Hospital, and the conclusions we arrived at are equally applicable to the Institutions and buildings covered by this Report. With regard to the establishment of standards, we referred in our First Report to possible dangers of standardisation which we had endeavoured to avoid; and we stated that in some instances we had adopted definite standards, in others standards had been frankly stated to be inapplicable, while in others the relative advantages and disadvantages of alternatives had been presented without a definite declaration in favour of one or other.

7. Some of the Institutions dealt with in this Report lend themselves much more to the establishment of standards than others. Thus, it has appeared to us appropriate to enter into greater detail in the case of Maternity Hospitals and Mental Hospitals than in that of Institutions for Pulmonary Tuberculosis and Isolation Hospitals. The considerations which limit the field within which standards can properly be applied to Institutions for Pulmonary Tuberculosis and to Isolation Hospitals are discussed in paragraphs 77 and 96 below.

8. In paragraph 21 of our First Report, we referred to the necessity for the closest collaboration between various technical advisers in the preparation of a building scheme for a Hospital and throughout all the subsequent stages. Such collaboration is equally essential in relation to the Institutions dealt with in this Report.



9. As in the case of the Acute General Hospital, we have not considered the question of protection against air raids in relation to the Institutions covered by this Report, as that question is outside our terms of reference.

10. We desire to take this opportunity of clarifying a matter which has arisen in connection with our First Report. Paragraphs 136 and 137 of that Report dealt with the residential accommodation to be provided for the domestic staff of an Acute General Hospital, but did not refer specifically to the sizes of the rooms which should be provided. It was our intention that the senior members of the domestic staff should have bed-sitting-rooms, or bedrooms and sitting-rooms, of the sizes recommended in paragraph 126, and that each member of the junior domestic staff should have a separate bedroom of the size recommended in that paragraph for nurses below the grade of sister. Common sitting-room accommodation for the junior domestic staff should be provided on the basis recommended in paragraph 129 for probationers.

## I.—THE MATERNITY DEPARTMENT.

### PLANNING THE MATERNITY DEPARTMENT.

11. Maternity accommodation may be planned either as a separate Hospital or Home or as a Department of a General Hospital. The Departmental Committee on Maternal Mortality and Morbidity recommended that the latter arrangement should be followed when practicable "in the interests of economy, as well as to facilitate specialist treatment of non-obstetric conditions associated with pregnancy and childbirth",\* and a similar opinion is expressed in the Report on an Investigation into Maternal Mortality issued by the Ministry of Health in 1937.† There are, indeed, obvious advantages; for instance, economy in administration, facilities for medical or surgical consultation and treatment, and easy access to Special Departments for diagnosis and investigation such as the X-Ray Department and the laboratory service. The modern tendency is thus to regard a Maternity Department as an integral part of a General Hospital, whether voluntary or municipal.

Where the Maternity Department is built as part of a General Hospital it should be planned as a separate block. If this is not practicable it should form a separate unit entirely distinct from the general medical and surgical wards and should have its own entrance.

12. In planning a Maternity Department, it should be borne in mind that the normal maternity patient is not a sick woman. She has undergone a good deal of physical discomfort and disability for some months and she has to pass through an exhausting and painful experience at parturition, but once that is over she rapidly recovers her strength. The atmosphere of a maternity ward should therefore be one of health rather than illness, but the danger to the lying-in woman of septic infection, and the ease with which such infection may be introduced into the wards or conveyed from one patient to another, make it essential to adopt special precautions in order to reduce the risk of infection to a minimum. The most important precautions lie in the realm of administration and treatment rather than that of planning and construction, but planning can contribute materially to safety. Its aim should be to provide the conditions that facilitate good administration and treatment and tend to restrict the effects of infection, should this unfortunately occur.

13. Provision must be made for the nursing and treatment of the abnormal or complicated case, for dealing with the apparently straightforward confinement which suddenly exhibits

\* Final Report of the Departmental Committee on Maternal Mortality and Morbidity, 1932, page 139.

† Report on an Investigation into Maternal Mortality, 1937, page 229.



a dangerous abnormality, and for the immediate and easy separation of any patient who is suspected of being a danger to others.

14. The special requirements of a Maternity Department, some of which have been mentioned, complicate planning and raise the cost as compared with that of General Hospital accommodation.

It would doubtless be generally agreed that anything within reason that can be done to make child-bearing safer ought to be done, and our recommendations follow that principle, though avoiding extravagance or unnecessary expenditure.

#### NUMBER OF BEDS IN A MATERNITY DEPARTMENT.

15. The number of beds in a Maternity Department cannot as a rule depend on theoretical considerations as to the optimum number, but must depend on the number of beds required in a particular Hospital or locality. For reasons of economy in construction and administration and of convenience in classification of patients very small Maternity Departments are not desirable, and maternity services should so far as practicable be so organised that Departments of less than 20 lying-in beds are avoided, though it is recognised that this may not always be possible in country districts.

The Departmental Committee on Maternal Mortality and Morbidity expressed the following view\* :—

The size of the maternity unit is a matter of some importance, as its efficiency largely depends on the perfect co-ordination of the different sections—ante-natal, natal and post-natal—and largely also on the constant individual supervision by doctors and nurses of long experience. In very large units this essential co-ordination and personal supervision is apt to break down, and mistakes may more readily occur which pave the way to difficult labour and death. The Committee, therefore, advocate, as likely to give the optimum of safety, Hospitals providing from 50 to 60 maternity and five to ten ante-natal beds with an associated district of not more than 800 to 1,000 cases per annum. Similar advantages may, of course, be secured in larger Institutions if they are organised in separate units with their own medical and nursing superintendents.

It does not seem to be practicable to limit Maternity Hospitals or Departments to a maximum of 60 to 70 beds, nor do we consider that there is any objection to a greater number, provided that suitable administrative arrangements are made. This conclusion seems to be in accordance with the last sentence of the passage quoted above.

---

\* Final Report of the Departmental Committee on Maternal Mortality and Morbidity, 1932, pages 40 and 41.

16. The conclusions which follow are intended to apply to a Maternity Department containing about 60 lying-in beds and forming part of a General Hospital, but are capable of modification to make them applicable to Departments greater or less in size or to separate Maternity Hospitals.

#### SIZE OF WARD UNIT AND WARDS.

17. In our Report of the Acute General Hospital we adopted 30 beds as the standard ward unit, i.e., a self-contained nursing unit under the charge of one sister. This number should be the maximum for a lying-in ward unit, and while a smaller number might be convenient it should be borne in mind that smaller units lead to a multiplication of ancillary rooms and consequently to a higher cost. Thirty beds should not be too many for one sister, provided she has sufficient trained staff for the proper supervision of the work in the wards and the nurseries and is not responsible for other duties such as those in the Labour Section or the Ante-Natal Clinic. A Maternity Department of the size under discussion would therefore contain two lying-in ward units not exceeding 30 beds each, together with certain other Sections to be described later.

The total in-patient accommodation would be as follows:—

Ordinary lying-in beds	...	60	
Separation accommodation—			
“ Potentially septic ”	...	2 to 4, or more	according to the nature and practice of the Hospital.
Observation	...	4	
Ante-natal beds	...	10	
		—	
		76 to 78, or more.	
		—	

18. There should be no large wards in a lying-in ward unit. Objections have been raised before us to wards with as many as eight beds, and some witnesses were of opinion that the maximum number should be four, though others saw no objection to eight, or even 12, beds.

In the Report of the Ministry of Health Investigation into Maternal Mortality, the following statement is made on this subject\* :—

“ Lying-in wards should contain a small number of beds (preferably not more than four). The wards should provide adequate floor space, be well-lighted, suitably heated and have an abundance of fresh air. Wherever practicable they should be cross-ventilated. A sufficiency of single-bed wards is essential.”

---

\* Report on an Investigation into Maternal Mortality, 1937, page 230.



Four beds make a convenient-sized ward, but it is difficult to plan a series of four-bed wards with cross-ventilation. It does not seem desirable to fix any definite size of ward which should be adopted in all cases, but we regard eight beds as the maximum number, and we are favourably disposed towards wards of four beds, if they can be so planned as to provide good lighting and ventilation.

19. Some of our witnesses were of opinion that the ward unit should consist entirely of single-bed wards, in order to give a maximum of security against the spread of infection. Others considered that this would be going beyond what is necessary or perhaps even desirable. They pointed out that, although some women prefer to be alone, solitude is irksome to many and may even retard their convalescence. They contended that planning entirely in single-bed wards would increase the cost of construction, and, by making supervision more difficult, would tend to increase the cost of staffing, without conferring sufficient advantages to justify the additional expense. They were not much impressed by the argument that complete separation of each patient would reduce the risk of infection, regarding separation as of minor importance compared with good medical and nursing technique.

The following passage occurs in the Ministry of Health Report already mentioned\* :—

“ A two-fold tendency has for some time been apparent in the design of Maternity Departments, namely, reduction of the maximum number of beds in a lying-in ward and increase in the proportion of beds provided in single-bed wards. The movement in this direction has gone so far as to suggest that expert opinion may ultimately be satisfied with nothing short of making the whole provision for lying-in patients in one-bed wards. This would undoubtedly solve some difficulties and have definite advantages, but up to the present has not been generally regarded as necessary or perhaps even desirable.”.

20. If it were clear that provision of a separate room for every patient substantially added to safety our view would be that the (probably comparatively small) addition to cost should not be allowed to stand in its way, but the evidence is not conclusive and at present the balance of expert opinion does not seem to favour this course.

We are satisfied, however, that the proportion of single-bed wards should be liberal, in order to facilitate classification and permit of the separation of certain patients. Sufficient single-bed wards should be provided to enable selected patients to be

---

\* Report on an Investigation into Maternal Mortality, 1937, page 231.

nursed separately for the first few days of the puerperium, the women being subsequently transferred to a larger ward if their condition remains normal. In a ward unit of 30 beds we consider that there should be not less than 6 single-bed wards. The remainder of the unit might be made up of wards of four to six beds each.

#### BED SPACE AND HEIGHT OF WARDS.

21. Single-bed wards should have an area of 120 square feet, and 9 feet is sufficient for their height, though the height will often be determined by that of other wards. Other wards should have a space between bed centres of 8 feet, an area per bed of 100 square feet, and a height of 10 feet.

#### THE NURSERY.

22. Every lying-in ward unit should contain a nursery for infants, which should be large enough to take all babies at night. The babies' bath and changing room should be a separate room opening directly into the nursery. The size of the nursery, excluding the bathroom, should be on the basis of 25 square feet per cot, assuming the same number of cots as lying-in beds. The nursery should have a sunny aspect, and be capable of ample ventilation. A sheltered balcony is a useful addition.

There should be some provision for premature infants, and the necessity of isolating a baby suffering from an infectious condition occasionally arises, but these purposes may be met by the single-bed rooms which form part of the ward unit. In a room for premature infants special measures are required for maintaining a suitable temperature combined with adequate ventilation.

#### ANCILLARY ROOMS.

23. In our Report on the Acute General Hospital we recommended the provision of the following ancillary rooms in an ordinary ward unit:—

	<i>Area in square feet.</i>					
Sluice room ... ..	...	...	...	...	...	100
Space for testing ... ..	...	...	...	...	...	30
Bathroom ... ..	...	...	...	...	...	70
Ward office ... ..	...	...	...	...	...	70
Ward kitchen ... ..	...	...	...	...	...	200
Duty room ... ..	...	...	...	...	...	100
Linen store ... ..	...	...	...	...	...	70
General store ... ..	...	...	...	...	...	70

together with patients' lavatory and W.Cs., staff lavatory and W.C., and cleaners' room.



24. Those rooms should also be provided in a lying-in ward unit, with the addition of a second sluice room. The sterilisation of bedpans after use is essential in a lying-in ward unit, and sluice rooms require space for the apparatus necessary for that purpose as well as other fittings, but account of this has been taken in arriving at the size of room suggested.

#### THE LABOUR SECTION.

25. The labour wards may be concentrated in a single Section, containing four first-stage rooms and four delivery rooms, with a sterilising room and a sluice room, to serve the two lying-in ward units; or a labour suite consisting of two or three first-stage rooms, two delivery rooms, a sterilising room and a sluice room, may be provided in association with each ward unit. The former arrangement is undoubtedly the more economical, and is by many regarded as the better on administrative grounds, but there are advocates of the principle that each ward unit should have its own labour suite, and we are not disposed to make a definite recommendation on this matter. The Labour Section, if on the same floor as the lying-in wards, should be separated from them by a lobby or soundproof door. A centralised Labour Section to serve the whole Department should contain a sister's office, but where each ward unit has its own labour suite this need not include a sister's office. There should be a staff lavatory conveniently accessible. First-stage rooms should be 80 to 100 square feet in size, delivery rooms 220 square feet, and the sterilising room, sluice room and sister's office should be 100 square feet each. The height of the delivery rooms should be not less than 10 feet; that of the other rooms may be less. An operating theatre may not be necessary as the theatre facilities of the General Hospital should usually be available, but if a theatre is required one of the delivery rooms should be made somewhat larger and fitted as a theatre.

#### ADMISSION OF PATIENTS.

26. One Reception Section can serve the whole Maternity Department. It may be convenient to plan it adjoining the Ante-Natal Section, but it should have a separate entrance and be in convenient relation to the Labour Section. The Reception Section should include a small waiting room in which the patient and her friends are received, and two preparation rooms of about 150 square feet each. A bathroom and W.C. should adjoin the preparation rooms.

When the number of "potentially septic" cases is sufficient to warrant the provision of a special Section for them (see paragraph 28 below) it is desirable to provide a separate preparation room for them either in the Reception Section or in the special Section.

## SEPARATION AND ISOLATION ACCOMMODATION.

27. There are three types of patient unsuitable for admission to and retention in the ordinary lying-in ward:—

(a) The “potentially septic”, i.e., emergency cases admitted in labour without having previously attended the Ante-Natal Clinic and patients who are regarded as specially liable to develop sepsis on account of internal examination or attempted delivery before admission.

(b) Patients who develop signs suggestive of sepsis after delivery.

(c) Patients with definite puerperal sepsis.

(a) *Potentially Septic Patients.*

28. “Potentially septic” patients should not come into contact with other patients, and should therefore be admitted to single-bed wards. We have carefully considered the question whether a special Section, separated from the ordinary lying-in wards, should be provided for them, and have come to the conclusion that this should depend on the type of obstetric practice that the Maternity Department is likely to undertake. The proportion of these “potentially septic” patients varies considerably in accordance with the practice in the area as regards the admission of maternity cases. In many Hospitals the great majority of the admissions are “booked” cases who have attended the Hospital Ante-Natal Clinic and are admitted immediately after the onset of labour. Where this practice prevails, the provision of single-bed wards which we have recommended as part of the lying-in ward units should afford all the segregation necessary for emergency admissions, and proper nursing technique should be an efficient safeguard against spread of infection. Where, on the other hand, the proportion of “potentially septic” cases is large, a special Section should be provided for them, containing a delivery room with sterilising recess, a sufficient number of single-bed wards, a duty room, and sanitary provision including sluice room. If possible, this Section should be on the ground floor with a separate entrance. Special attention should be paid to the ventilation of the wards, and facilities for placing the beds in the open air should be available when practicable.

(b) *Suspected Sepsis after Delivery (Observation).*

29. After delivery, a patient may develop pyrexia or other signs suggestive of sepsis. Pending a definite diagnosis, such a patient should be transferred to a single-bed ward for observation; for such temporary separation, it is useful to have four single-bed wards grouped together and provided with their own duty room and sanitary accommodation, including sluice room.



This special Observation Section may not be necessary when the Maternity Department forms part of a General Hospital. In such circumstances, mild cases could be sufficiently segregated in the ordinary single-bed wards, and the more serious should be removed to the isolation block of the associated General Hospital.

(c) *Puerperal Sepsis.*

30. A patient who becomes definitely infective with puerperal sepsis should be transferred at once to isolation accommodation outside the Maternity Department. This may be in a special block for puerperal sepsis or in the ordinary isolation block of a General Hospital, or, alternatively, it may be provided in an Isolation Hospital to which cases of puerperal sepsis are admitted.

The wards need not differ from the usual type of single-bed rooms provided in the so-called "cubicle block" of an Isolation Hospital, but a room for obstetric examination and treatment is desirable. The importance of open air and sunshine in the treatment of puerperal infection is generally accepted.

MISCELLANEOUS.

31. Special attention should be given to good lighting and ventilation. A covered terrace or verandah on to which beds can be wheeled is a useful feature, but may be unnecessary if widely opening windows are provided.

Windows, giving observation into the wards from the ward corridor, are useful to facilitate supervision.

32. The recommendations made in Section X of our First Report as to the methods of construction, materials and finishings of an Acute General Hospital may be applied generally to a Maternity Department. The wall and floor finishings of labour rooms should be as recommended for operating theatres in paragraph 171 of that Report.

33. A small general waiting room should be included in the Maternity Department unless the Department is situated conveniently near the waiting accommodation for patients' relatives provided in the Administration Block of the Hospital.

34. The amount of soiled linen in a Maternity Department is heavy, and proper provision for its temporary storage and prompt removal should be made. Provision for the incineration of soiled dressings and other waste products is necessary, but it is usually preferable for this to be carried out elsewhere than in the Maternity Department.

35. It is useful for a Maternity Department to have a small hand laundry for the washing of infants' napkins and garments.

## ANTE-NATAL CARE.

36. Ante-natal supervision has now become a necessary part of the work of the Maternity Department. It involves the provision of (1) an Ante-Natal Clinic for the routine supervision and instruction of pregnant women and for obstetric consultation; and (2) wards in the Maternity Department for patients needing special examination or treatment.

(1) *The Clinic.*

37. The planning of the Clinic will depend on the number of women likely to attend at each session, and thus on the number of beds in the Maternity Department; on the existence or not of an extern midwifery service; and on the number of sessions to be held per week. It may form a separate part of a general Out-Patient Department; or, preferably, be a part of the Maternity Department itself, when it may be combined with the Reception Section, though having a separate entrance. The growing importance of the Ante-Natal Clinic should be kept in mind, and ample space should be allowed for its development. The Ante-Natal Clinic can also be used for post-natal examination and consultation.

38. The accommodation should include a waiting room with seats suitable for pregnant women; an almoner's room; a history and record room for taking histories, keeping records, etc.; consultation rooms with examination cubicles (the number varying according to the number of Medical Officers likely to be holding sessions); and a sufficiency of dressing cubicles. There must be sanitary accommodation for staff and patients and provision for taking and examining specimens of urine. It is useful to place a hatchway between the patients' W.C. and the room or recess in which specimens are examined. A small dispensary may be needed. The waiting room should be of sufficient size to allow for social and educational facilities to be carried out where it is not the practice of the Local Authority to refer women to separate Ante-Natal Clinics for those purposes.

39. The sizes of the various rooms should be approximately as follows:—

Waiting room ...	...	...	Not less than 500 square feet.
History and record room	...	...	150 square feet.
Consultation room	...	...	100 square feet.
Examination cubicle	...	...	60 square feet.
Dressing cubicle	...	...	20 square feet.

In a busy Clinic where several doctors work simultaneously a larger waiting room may be necessary.

40. If an extern district is attached to the Hospital there should be accommodation for district midwives, including a "utility" room for sterilising and the care of equipment.



(2) *Ante-Natal Beds.*

41. The Departmental Committee on Maternal Mortality and Morbidity suggested the provision of five to ten ante-natal beds in association with 50 to 60 lying-in beds (see paragraph 15 above). We have received evidence to the effect that the proportion of ante-natal beds should be larger, and in a Department of the size under consideration we recommend the provision of 10 beds for ante-natal purposes, in addition to the 60 lying-in beds already described. If at any time this number is insufficient use can be made of some of the single-bed rooms in the lying-in ward units for suitable ante-natal patients. The 10 ante-natal beds might be in one ward of eight beds and two single-bed wards. There is no objection, however, to more than eight beds in an ante-natal ward.

## NURSING STAFF.

42. It is an open question whether the risk of the spread of infection in a Maternity Department necessitates the provision of separate residential accommodation for the nursing staff. Nurses may act as carriers of infection, and therefore the less midwifery nurses associate with other persons who may be in contact with septic infection the better and safer for their patients. It is particularly undesirable that maternity nurses should come into association with those employed in nursing cases of sepsis, and especially of puerperal sepsis. This is difficult to avoid where maternity nurses are housed in the Nurses' Home of a General Hospital in which cases of puerperal sepsis or other acute forms of sepsis are treated. Moreover, midwifery work involves irregular hours, and the midwives need special consideration in regard to meals, rest, etc. For these reasons it is sometimes held that separate quarters should be provided for the nurses and pupil-midwives employed in the Maternity Department of a General Hospital. On the other hand, the risk is often regarded as negligible if proper precautions are taken, and there is obvious convenience in housing all the nursing staff of a Hospital in one Nurses' Home. We do not consider that this is a matter on which a hard and fast rule can be laid down.

## SUMMARY OF PROVISION.

43. The following statement summarises the provision we recommend for a Maternity Department containing about 60 beds and forming part of a General Hospital:—

(1) *Reception Section.*

Waiting room.

Two preparation rooms.

Bathroom and W.C.

Separate preparation room for emergency or "potentially septic" cases, if the number of such cases admitted is likely to be considerable, either in this Section or as part of the separation accommodation.

(2) *Two Lying-in Ward Units.*

Each ward unit not to exceed 30 beds, and to contain—

Not less than six single-bed wards.

Remainder in wards of four to six beds each.

Nursery and babies' bath and changing room.

Ancillary rooms—two sluice rooms, space for testing, bathroom, ward office, ward kitchen, duty room, linen store, general store, patients' lavatory and W.C.s., staff lavatory, and cleaners' room.

(3) *Labour Section.*

Four first-stage rooms	}	for the two lying-in ward units.
Four delivery rooms		
Ancillary rooms—		
sterilising room, sluice room, and sister's office.		

or

Two or three first-stage rooms	}	for each lying-in ward unit.
Two delivery rooms		
Ancillary rooms—		
sterilising room and sluice room.		

If the theatre facilities of a General Hospital are not available, one of the delivery rooms may be made somewhat large and fitted as a theatre.

(4) *Separation and Isolation Accommodation.*

(a) *Potentially Septic Section* (in some cases)—

Single-bed wards.

Delivery room, with sterilising recess.

Ancillary rooms—sluice room, duty room, and sanitary accommodation.

(b) *Suspected Sepsis after Delivery (Observation) Section* (in some cases)—

Four single-bed wards.

Ancillary rooms—sluice room, duty room, and sanitary accommodation.

(c) *Puerperal Sepsis*—

Such cases should be transferred at once to isolation accommodation outside the Maternity Department.



(5) *Ante-Natal Section.*

(a) *Ante-Natal Beds—*

Ten ante-natal beds.

(b) *Ante-Natal Clinic—*

Waiting room.

Almoner's room.

History and record room.

Consultation rooms, with examination cubicles.

Dressing cubicles.

Sanitary accommodation for patients and staff.

Dispensary, when required.

Accommodation for district midwives, in some cases.

## II.—ACCOMMODATION FOR SICK CHILDREN.

### INTRODUCTORY.

44. Accommodation for sick children may be planned either as a separate Hospital or as a Department of a General Hospital.

The various sections in our First Report, other than that relating to In-Patient Accommodation, apply generally to a separate Children's Hospital, though some modifications may be required.

### THE IN-PATIENT ACCOMMODATION.

45. With regard to the in-patient accommodation for children, whether provided as a separate Hospital or as a Department of a General Hospital, the governing consideration is the special liability of children to infections of various kinds and the consequent necessity of taking all practicable measures to reduce the risk of the spread of infection.

#### *The Ward Unit.*

46. In our Report on the Acute General Hospital we adopted 30 beds as the standard ward unit, i.e., a self-contained nursing unit under the charge of one sister. It has been represented to us that as children require more supervision than adults a ward unit of 30 beds is too large. While this may be so in hospitals dealing almost entirely with serious or difficult cases, we think that 30 beds is a suitable standard for the average Children's Department of a Municipal Hospital.

#### *Sub-division of the Ward Unit.*

47. Whatever opinion may be held on the relative merits of small and large wards for adults, large wards are, on account of the danger of infection, inappropriate for children, and for this reason it has been advocated that a children's ward unit should be composed entirely of single-bed rooms. We are not prepared to adopt this view, but as infants are particularly susceptible to certain infections such as respiratory and intestinal, we are of opinion that children under two years of age should as a general rule be nursed in single-bed rooms. For this reason, and also to permit of immediate segregation of children showing any signs or symptoms suggesting that they may be a source of infection, the number of single-bed rooms should be liberal; in our opinion, not less than 6 in a ward unit of 30 beds. Other wards for children should not contain more than 8 beds, and it is preferable that the number should be restricted to 6, or even 4.

#### *Ward Dimensions and Bed Space.*

48. As regards ward dimensions, on account of the smaller size of the beds the amount of space required for convenient



working is less in children's than in adult wards. We regard a superficial area of 80 square feet per bed as a satisfactory standard. With a view, however, to preventing the transference of infection, we are of opinion that the distance between bed centres should not be less than the standard we have adopted for adults, namely, 8 feet. As no ward will contain more than 8 beds a height of 10 feet is sufficient. Dimensions of 10 feet by 8 feet are suitable for single-bed rooms, and a height of 9 feet is sufficient, but their height will usually be determined by that of the other wards.

49. The remarks in the preceding paragraph refer to wards for children up to about 10 years of age. For children under the age of 2 years slightly smaller dimensions would suffice, but accommodation which would have to be restricted to such young children should not be provided unless their number is sufficiently large and constant to warrant it.

50. Division of the ward unit into a number of small wards makes supervision more difficult, and it must be remembered that constant supervision is imperative in the case of children. Observation should be facilitated as much as possible by a free use of glazed partitions.

51. Good lighting and ventilation, always important, are particularly so in children's wards, and open air treatment is both of special value and of wider application in the case of children than in that of adults. Accordingly, facilities for open air treatment should be provided either in the form of open air wards (such as are seen in Sanatoria and Orthopaedic Hospitals) or by means of large windows freely opening or the provision of verandahs and balconies. In the case of balconies suitable precautions must be taken to prevent accidents.

### *Ancillary Rooms.*

52. In our Report on the Acute General Hospital we recommended the provision of the following ancillary rooms in an ordinary ward unit:—

						<i>Area in square feet.</i>
Sluice room	...	...	...	...	...	100
Space for testing	...	...	...	...	...	30
Bathroom	...	...	...	...	...	70
Ward office	...	...	...	...	...	70
Ward kitchen	...	...	...	...	...	200
Duty room	...	...	...	...	...	100
Linen store	...	...	...	...	...	70
General store	...	...	...	...	...	70

together with patients' lavatory and W.Cs., staff lavatory and W.C., and cleaners' room.

The ancillary room requirements of a children's ward unit are broadly the same as in the case of adult wards, but the needs of children call for certain variations both in accommodation and in equipment.

53. More baths are required than in adult wards. It is useful to provide a fixed bath in each of the single-bed rooms which are likely to be in use for infants, as the advantages of treatment in a single-bed room are diminished if the infant has to be taken elsewhere for washing or changing. These baths can also be used by the surgeon and nurse for washing their hands. Ward units where fixed baths are not provided in the single-bed rooms should contain two bathrooms.

54. In ward units to which infants are admitted, and in which fixed baths are not provided in the single-bed rooms, there should also be a changing room. The changing room should communicate on one side with the sluice room and on the other with the bathrooms, and should contain a Belfast sink for rinsing napkins, and a lavatory basin for the nurses. 100 square feet are required.

55. In ward units to which infants are admitted there should also be a milk preparation room, equipped with facilities for washing and sterilising babies' bottles, and containing a refrigerator for the preservation of prepared feeds. An area of 90 square feet is required for the milk preparation room, which should be planned as an annexe to the ward kitchen.

#### ISOLATION ACCOMMODATION.

56. In addition to the requirements outlined in the preceding paragraphs, a Children's Hospital should always contain isolation accommodation apart from the ward units. The amount of isolation accommodation that is required depends to some extent on the facilities available for transfer to an Isolation Hospital, but it is relatively greater than what is required in a General Hospital on account of the special susceptibility of children to infection.

When a General Hospital contains a Children's Department the provision of isolation accommodation should be planned with a view to the special needs of the Children's Department in this respect.

#### INTERCHANGEABILITY OF ACCOMMODATION.

57. It is sometimes held that, in the interests of elasticity, the provision of specialised accommodation suitable only for one class of patient should, in a General Hospital, be restricted as much as possible, and that, in conformity with this principle,



wards primarily intended for children should be of the same dimensions as those recommended for adult wards. Without contesting the validity of the principle we have assumed that accommodation intended only for children will sometimes be provided, and accordingly have thought it desirable to indicate above what, in our opinion, are the special requirements of a Children's Department in a General Hospital. Great fluctuations occur, however, in the admissions to children's wards, and the number of wards with dimensions suitable only for children should be kept down to the number likely to be constantly required for that purpose.

### III.—ACCOMMODATION FOR CASES OF CHRONIC SICKNESS.

#### INTRODUCTORY.

58. The terms "acute ward" and "chronic ward" are convenient labels which roughly correspond to the condition of the occupants, but, strictly speaking, the distinction should be based on the needs of the patient in the matter of medical treatment. Patients whose condition (whether acute or chronic) calls for active medical or surgical treatment should be in the acute wards. When a chronic condition has reached a stage when active medical or surgical treatment is of no avail but the patient remains in need of continuous nursing care, he should, both for the sake of his own comfort and in order to release a bed in the acute ward, be transferred elsewhere. It is for such patients that the so-called "chronic wards" are intended. They are to be distinguished from the "infirm wards" of a Public Assistance Institution which are occupied by inmates who, though not able-bodied, are normally able to be up all day and not in need of nursing though they may require some simple assistance from attendants.

59. Accommodation for patients suitable for chronic wards may be provided either in a special Hospital or as part of a General Hospital which deals with acute cases. There are certain advantages in the latter course, e.g.:—

(1) Patients suffering from chronic illness may from time to time require active medical treatment necessitating their transfer to acute wards or may require some form of special investigation for which facilities are available only in an Acute Hospital.

(2) Difficulties in staffing may arise in a Hospital restricted to chronic cases because it does not provide sufficient interest or range of experience for the medical and nursing staff and cannot be a nurses' training school.

(3) It is useful for nurses in training to gain some experience of this class of patient, and this can easily be arranged if the chronic wards form part of a General Hospital.

It must be recognised, however, that where the number of patients of the class under consideration is large it may be more convenient to provide for them in special Hospitals, and accordingly we set out the requirements of a Chronic Hospital.

#### The Chronic Hospital.

##### GENERAL.

60. The condition of the patients and the fact that active treatment is not in progress lead to a marked difference in the general character of a Chronic as compared with an Acute



Hospital. Administration is less complex, different standards of accommodation are appropriate, simpler equipment suffices, and the general activity in the wards and throughout the Hospital is less. These facts have an important bearing on the requirements of the various parts of the Hospital.

#### SITE AND GENERAL LAY-OUT.

61. The considerations mentioned in Section II of our Report on the Acute General Hospital, relating to Site and General Lay-Out, apply. Low buildings are sometimes preferred for a Chronic Hospital as making it easier to get patients out into the grounds, on foot or in wheeled chairs. On the other hand, some of our witnesses take the view that the provision of lifts obviates any objection to high buildings.

#### THE IN-PATIENT ACCOMMODATION.

##### *The Ward Unit.*

62. In our Report on the Acute General Hospital we adopted a standard of 30 beds for a ward unit, that is for a group of wards under the charge of one sister. In a Chronic Hospital treatment is simpler, changes of patients are much less frequent, and the amount of clerical work is very much less; and, accordingly, there is no objection to larger units provided that the sister-in-charge has adequate trained assistance. The degree of division of the ward unit into separate wards has a bearing on this question. It is easier to supervise a given number of patients in one or two large wards than in several smaller wards. If the unit consists of two large wards and a few single-bed wards, and the necessary trained assistance for the sister is provided, we consider that a ward unit may properly contain up to 60 beds, but difficulty in obtaining trained staff nurses for chronic wards often arises, and, for this reason, smaller ward units may be advisable.

##### *Sub-division of the Ward Unit.*

63. In our Report on the Acute General Hospital we discussed the sub-division of the ward unit into wards, and remarked on the present tendency to reduce the number of beds in main wards. For the class of patients now under consideration there is much less objection to large wards containing say 20 to 30 beds, but it is necessary to provide for some degree of classification. The great majority of inmates of the chronic wards are aged, or at least well advanced in years, many are enfeebled in mind as well as in body, and a considerable proportion have lost control of their bodily functions. It is essential that the younger and mentally more alert patients should be separated from the large senile group and should be provided with such

occupations and recreation as their condition permits, and it is also desirable to separate from the others patients who are incontinent or for other reasons physically offensive. Unless, therefore, the numbers in each class are large enough to occupy large wards, there should be a sufficient number of smaller wards to admit of proper classification. Division of a long ward into sections by means of transverse glazed partitions meets this requirement reasonably well, though separate wards are preferable. In every ward unit there should be some single-bed wards for the separation of certain patients, in their own interest or that of others. For this purpose there should be six single-bed wards in a ward unit of 60 beds. It does not seem possible to specify precisely the degree of sub-division which should be provided in a ward unit, as this must depend on the numbers of the different groups of patients to be provided for.

#### *Ward Dimensions and Bed Space.*

64. Traffic in the wards is much lighter than in an Acute Hospital and any treatment given is of a simple character; less working space is accordingly required. Wards need not be more than 24 feet wide, and a space of 7 feet between bed centres is sufficient. This gives a floor area of 84 square feet per bed, and, generally speaking, suffices to provide comfortable conditions for the patients and to meet the demands of hygiene.

For single-bed wards an area of 100 square feet is sufficient.

The heights of chronic wards should be the same as those given in our Report on the Acute General Hospital, viz., nine feet for single-bed wards, 10 feet for small wards up to six beds, 11 feet for main wards containing not more than 16 beds, and 12 feet for undivided longer wards.

65. The above remarks on ward dimensions and bed space apply to the usual transverse bed arrangement. We do not know of any instances of chronic wards specially designed for the longitudinal arrangement of beds, but we think that the adoption of this type of ward for chronic cases might perhaps be worth considering. The sub-division of the ward by screens which it entails permits of a considerable degree of classification, combined with elasticity, in a large ward, but it interferes with supervision, and may necessitate an increase in staff. There is not sufficient experience of the use of this bed arrangement to enable us to recommend standards of bed space, but probably 90 square feet per bed would be satisfactory in chronic wards.

66. Verandahs and balconies are useful to enable some of the patients to obtain the benefit of fresh air in suitable weather, and for continuous open air treatment of certain types of chronic disease.



*Dayrooms.*

67. Except in ward units reserved for bedridden cases, a day-room will be required. Its size must be based on the number of patients expected to be able to use it; and, while no definite standard can be laid down, a minimum area of 240 square feet is suggested.

*Ancillary Rooms.*

68. In our Report on the Acute General Hospital we have recommended the provision of the following ancillary rooms in an ordinary ward unit of 30 beds:—

	<i>Area in square feet.</i>
Sluice room ... ..	100
Space for testing ... ..	30
Bathroom ... ..	70
Ward office ... ..	70
Ward kitchen ... ..	200
Duty room ... ..	100
Linen store ... ..	70
General store ... ..	70

together with patients' lavatory and W.Cs., staff lavatory and W.C., and cleaners' room.

69. For a chronic ward unit of 60 beds ancillary rooms should be provided as follows:—

	<i>Area in square feet.</i>
2 Sluice rooms with recess for testing, each ...	130
2 Bathrooms, each ... ..	90
1 Ward office and duty room ... ..	100
1 Ward kitchen ... ..	240
1 Linen store ... ..	100
1 General store ... ..	100

together with two patients' lavatories, each with two W.Cs., staff lavatory and W.C., and cleaners' room.

70. The differences in the ancillary rooms as compared with an acute ward unit are explained as follows:—

Bathrooms should be larger to allow space for handling helpless patients.

Ward office and duty room. Owing to the simpler treatment and lesser amount of activity generally, the ward office and the duty room discussed in our First Report can be combined in a single room.

The ward kitchen must be larger as it serves a larger number of patients.

Doors giving access to bathrooms and W.C.'s should be wide enough to admit of the passage of wheeled chairs.

### SPECIAL DEPARTMENTS.

71. An operating theatre and an X-ray Department are not required. If X-ray investigation is necessary a portable apparatus will suffice, and for this reason, and also for the purpose of electrical treatment, one or two electric power points should be provided in each ward. Massage and electrical and thermal treatment are commonly applied in the wards, but as there is a considerable field for palliative treatment by physiotherapeutic measures a Special Department may be necessary.

Patients are usually admitted direct to the wards, and a Reception Department is, therefore, not generally necessary.

### ADMINISTRATIVE BUILDINGS.

72. Section VII of our Report on the Acute General Hospital, dealing with the "Administrative and Certain Other General Services," will serve as a general guide, with some modification in the direction of simplification. A Chronic Hospital is a much less busy Institution than an Acute Hospital, the turn-over of patients is very much less, the proportion of staff to patients is lower, and the work of the dispensary is simpler in character and less in amount.

### RESIDENTIAL ACCOMMODATION.

73. The residential accommodation is similar to that required in an Acute Hospital, with the proviso that the staff is smaller and it is common for a larger proportion to be non-resident. A training school, such as is described in our Report on the Acute General Hospital is not required, but there should be available, somewhere in the Hospital, accommodation for classes.

### MORTUARY BLOCK.

74. Section IX of our Report on the Acute General Hospital applies, except that the extent of the accommodation required for bodies can be less in amount.

### METHODS OF CONSTRUCTION, MATERIALS AND FINISHINGS GENERALLY.

75. The recommendations made in Section X of our First Report as to the methods of construction, materials and finishings of an Acute General Hospital may be applied generally to a Chronic Hospital.

### ENGINEERING SERVICES.

76. In Section XI of our First Report we dealt with the engineering services in a Hospital. Our conclusions and recommendations are applicable generally to a Chronic Hospital.



#### IV.—RESIDENTIAL INSTITUTIONS FOR PULMONARY TUBERCULOSIS.\*

##### INTRODUCTORY.

77. The treatment of pulmonary tuberculosis has undergone striking development during the past 15 or 20 years. The lines on which Sanatoria and Tuberculosis Hospitals were constructed before and shortly after the war are no longer fully adequate to meet the requirements of treatment as now practised. Further, as a result of the operation of the Local Government Act, 1929, County and County Borough Councils have become Local Authorities for General Hospital services, and this is showing signs of influencing their attitude to the type of provision which should be made for tuberculosis and tending to bring that provision more into line with the characteristics of General Hospitals. These considerations, as well as the variation in practice in different parts of the country, the difference in conditions and requirements in thickly and sparsely populated areas, and the varying proportions of cases of the different types and stages of the disease that have to be provided for, limit the field within which standards can properly be applied. Accordingly, we have thought it best to restrict our Report on this subject to what follows in paragraphs 78 to 95.

##### SIZE OF INSTITUTION.

78. With the advances that have been made in treatment has come an increasing need for skilled medical supervision and more elaborate equipment, as a result of which the size of the economic unit has increased. There is consequently a tendency for Local Authorities to concentrate the treatment of all types of pulmonary tuberculosis in one Institution rather than to maintain separate small Institutions for different types. The extent to which this policy can be carried out is influenced by the need to have a certain amount of accommodation for advanced cases of tuberculosis near the patients' homes, so that they may not be unduly remote from their families. We do not propose to detail the lines upon which this provision should be made; there are various possibilities, and much must depend on local circumstances.

79. It is evident, therefore, that in some areas the Sanatorium-Hospital may have to deal with cases of pulmonary tuberculosis in all stages, but in other areas mainly with patients in whom there is a good prospect of recovery. Further, in the case of a populous County or County Borough more than one

\* Residential Institutions in Wales and Monmouthshire are provided by the King Edward VII Welsh National Memorial Association, a voluntary body, who carry out the treatment of tuberculosis on behalf of the Welsh County and County Borough Councils.

Institution may be required. In such cases separate Institutions may be used for different types of patient or for patients of one sex only. All these factors influence the planning and arrangement of the Institution, and it would be undesirable to attempt to specify the lines which should be followed or to recommend standards as to size of Institution.

80. The needs of some Local Authorities are clearly too small to justify their providing a Sanatorium-Hospital for their own patients alone, since the equipment and facilities required for modern treatment would not be utilised to their full capacity and the work, if efficiently carried out, would be costly. Such an Authority should consider the possibility of combining with another Authority to establish a Sanatorium-Hospital of suitable size or of arranging for the treatment of their patients in some existing Institution where modern methods of treatment are practised.

#### SITE AND GENERAL LAY-OUT.

81. The considerations referred to in paragraph 22 of our First Report are generally applicable as regards the selection of a site.

The area of the site should be sufficient to provide ample space for recreation and exercise, with an appropriate degree of separation of the sexes if both are admitted.

Although the site should preferably be in the country, it is important that the Institution should be reasonably accessible, and in selecting a site attention should be paid to transport facilities to ensure that patients may not be unduly cut off from their relatives and that the staff may have ready access to a fair sized centre of population.

82. The usual practice until recently has been to adopt single-storey pavilions, but there is now apparent a tendency, in the case of Institutions of sufficient size, towards greater concentration in buildings of two or more storeys. Such an arrangement has advantages, but we consider that the type of lay-out to be adopted should be left to be determined by local conditions and requirements.

#### THE WARD UNIT.

83. The number of beds which can be controlled effectively by one sister varies with the type of case occupying them. A ward unit occupied by bedfast patients should obviously be smaller than one in which the patients are mainly ambulant, and the size of the unit can therefore properly vary within fairly wide limits, say from 30 to 50 beds.

84. There is general agreement that large wards are undesirable for the treatment of cases of pulmonary tuberculosis, and the modern trend is in favour of a maximum of six, or even



four, beds in any ward. It is essential that there should be ample provision of single-bed wards. The proportion of the total accommodation to be provided in single-bed wards varies according to circumstances, but generally from about 15 per cent. to 20 per cent. will be found to be required.

85. For patients who will spend most of their time in bed, it is desirable to have a terrace or balcony wholly or partly open to the sky, on to which the beds can be wheeled. For ambulant patients accommodation of this type is not required, and their needs can be met by providing wide windows which can be opened in such a way as will give a high degree of open air conditions. Such wide windows are desirable in most of the patient accommodation; but a number of the single-bed wards may be required for patients who need greater warmth and a more uniform air temperature than the others, and for these wards normal windows would be more suitable.

#### *Bed Space and Height of Wards.*

86. The open air conditions which prevail in Tuberculosis Institutions affect the question of bed space, and experience has shown that an allowance of bed space somewhat smaller than that required in a General Hospital is appropriate. Accordingly, we recommend that single-bed wards should have an area of 90 square feet, and other wards an area of 80 square feet per bed.

87. As none of the wards should be large a height of 10 feet will be sufficient, and the height of single-bed wards need not be greater than 9 feet unless it is determined by that of other wards.

#### *Ancillary Rooms.*

88. Broadly speaking, the ancillary rooms will be similar to those required in a ward unit of a General Hospital, as set out in paragraphs 68 to 77 of our First Report, though some modifications will be required. Sanitary provision on a more liberal scale will be necessary in a ward unit intended mainly for ambulant patients, while in such cases the provision of service rooms may be somewhat reduced. In a ward unit for ambulant cases the following standards are recommended:—

W.Cs. 1 to 8 patients (with a urinal in male units).

Baths. 1 to 10 patients.

Lavatory basins. 1 to 6 patients.

In a ward unit occupied mainly by bedfast patients the sanitary accommodation and other ancillary rooms should approximate more closely to those of a ward unit in a General Hospital.

89. A dayroom will usually be necessary, its size depending on the proportion of patients likely to be able to make use of it.

#### SPECIAL DEPARTMENTS.

90. Special Departments will not be required on the same scale as in a General Hospital, but there is need for a medical treatment unit, which as a rule should contain the following:— A consulting room, a small waiting room, dressing cubicles, X-ray room, dark room, film store, treatment room, laboratory, dental room, nurses' room, and staff sanitary accommodation for each sex. It is often preferable to arrange for major thoracic surgery to be done elsewhere, but if provision is made for it in the Sanatorium-Hospital, the treatment room should be replaced by an operating theatre suite, with which should be associated special rooms for post-operative patients.

Provision for occupational therapy will generally be necessary.

#### ADMINISTRATIVE BUILDINGS.

91. Section VII of our Report on the Acute General Hospital, dealing with the "Administrative and Certain other General Services," will serve as a general guide.

Owing to the fact that there is usually a considerable number of ambulant patients, a central dining hall is commonly provided, and this can be used for other purposes such as entertainments. It should be situated near the main kitchen, and, as it is desirable that the allowance of space for tubercular patients should be liberal, provision should be made on the basis of 14 square feet per patient for the maximum number estimated to be able to use the dining hall.

#### RESIDENTIAL ACCOMMODATION FOR STAFF.

92. The residential accommodation is similar to that required in a General Hospital as set out in Section VIII of our Report on the Acute General Hospital.

It will, however, be impracticable to use any of the patient accommodation for sick staff, and a small sick bay for the nursing and domestic staff will need to be provided. In the case of a multiple-storey building, this may be situated on an upper floor adjacent to, but entirely separate from, the patient accommodation.

#### METHODS OF CONSTRUCTION, MATERIALS AND FINISHINGS GENERALLY.

93. The recommendations made in Section X of our First Report, as to the methods of construction, materials and finishings of an Acute General Hospital, may be applied generally to a Sanatorium-Hospital, except that the provision of wide windows and balconies would be facilitated by the adoption of frame construction for buildings of even moderate height.



## ENGINEERING SERVICES.

94. In Section XI of our First Report we stated that, in dealing with engineering services in that Section, we had not restricted ourselves entirely to the needs of an Acute General Hospital, and that many of our conclusions and recommendations were applicable to hospitals and institutions generally.

95. As regards heating of the wards, it is now generally considered necessary to provide some heat in all the wards of a Sanatorium-Hospital. In the case of certain wards temperatures approximating to those usually adopted in General Hospital wards may be desirable, but in the case of open air wards it is not practicable to prescribe any particular temperature. There should, however, be sufficient heat to prevent condensation.

## V.—ISOLATION HOSPITALS.

### INTRODUCTORY.

96. Isolation Hospitals vary greatly in size, ranging from Hospitals of over 500 beds in London and some of the large provincial cities to Hospitals of 20 beds or even less in rural areas. It is obvious that Hospitals varying so widely in size must differ greatly in character and requirements. This difference is increased by variations both in the incidence of infectious diseases and in practice as regards isolation in different parts of the country. Accordingly, as in the case of Tuberculosis Institutions, standards are applicable only to a rather limited extent, and it has seemed advisable to confine our observations on Isolation Hospitals to what follows in paragraphs 97 to 108.

### SIZE OF HOSPITAL.

97. To provide a small Isolation Hospital with the full equipment and facilities appropriate to a large one would be unduly costly, and it is to be hoped that, by joint action or co-operation on the part of Local Authorities, the erection of very small Isolation Hospitals in the future will be avoided. In this connection, action under Section 63 of the Local Government Act, 1929, should be borne in mind. Even so, it must be recognised that there are limits to the area that can properly be served by one Hospital, and we can only urge that full weight should be given to the advantages of providing the necessary number of beds in a small number of large Hospitals rather than in a large number of small Hospitals. We do not think it possible to recommend any standard minimum.

### SITE AND GENERAL LAY-OUT.

98. The observations in paragraphs 22 and 23 of our First Report are generally applicable. The question of high versus low buildings, however, does not arise in relation to the patient accommodation. A ward block should be used for only one disease at a time,\* and consequently elasticity of accommodation is increased by having numerous small blocks rather than a few large ones. This leads logically to a plan of small one-storey pavilions in all but the larger Isolation Hospitals, and it is unlikely that ward blocks of more than two storeys would be contemplated in a new Isolation Hospital, even of large size.

99. Any block containing patients or infected articles should be situated not less than 40 feet from the boundary of the site, and any block containing patients should be not less than 40 feet from any other block. The laundry, ambulance garage, boiler house and disinfectant may, if desired, be provided in one block.

---

\* Apart from the so-called "cubicle block" (see paragraph 103).

### THE WARD UNIT.

100. In the typical Isolation Hospital consisting of small one-storey pavilions each ward block contains only one ward unit. The ward unit may, and commonly does, include beds for both sexes, and it is often found convenient to have it composed of unequal portions, the larger being used for young children of both sexes and older female patients. The size of the ward unit cannot be standardised by reference to the number of patients that can be supervised by a sister: it must in many cases be determined by the size of the Isolation Hospital and the greater elasticity conferred by small units.

The tendency towards small wards is even more marked than in the case of the General Hospital, and, without wishing to lay down any hard and fast rule, we consider that about 12 beds in a ward should be the maximum. There is much to be said in favour of quite small wards (say of four beds), especially for scarlet fever patients. Each ward unit should contain two single-bed wards.

#### *Bed Space and Height of Wards.*

101. All the evidence that we have received has been in favour of providing not less than 12 feet between bed centres, and we recommend that this should be adopted as the standard. A suitable width of ward for six beds and upwards is 24 feet, providing a superficial area of 144 square feet per bed. We consider, however, that a ward of 20 feet by 20 feet is suitable for four beds: the distance of 12 feet between bed centres can be maintained in a ward of that size.

For single-bed wards we recommend the same dimensions as in paragraph 63 of our First Report, namely, 10 feet by 11 feet.

The height of wards containing up to six beds should be 10 feet, and that of larger wards 11 feet.

#### *Ancillary Rooms.*

102. Paragraphs 68 to 77 of our First Report will be a useful general guide as to the ancillary rooms required, but somewhat simpler provision will suffice.

A ward office is not usually necessary, and in small ward units a combined duty room and ward kitchen is usually regarded as suitable.

Where both sexes are nursed in the same ward unit duplicate bath and sanitary provision may be required.

### CUBICLE BLOCK.

103. We have adopted the term "cubicle block" as it is in common use in connection with Isolation Hospitals, but actually



a cubicle block consists of a number of entirely separate single-bed wards. A cubicle block is used for cases of double infection and doubtful diagnosis and for those diseases of which only small numbers of cases are admitted. Unlike the other ward blocks, a cubicle block may be used for the reception of patients suffering from different diseases.

104. In a cubicle block, the single-bed wards are arranged on each side of a central duty room, but in order that adequate supervision from the duty room may be maintained there should not be more than six wards on each side of it. Observation windows should be provided to the duty room, and the partitions between the wards should each contain a glass panel, about 7 feet wide by 4 feet high, the bottom of the panel being about 2 feet 6 inches from the floor. Observation is further assisted by painting the wards in different colours. The sanitary accommodation should be placed centrally, opposite the duty room but separated from it by a service corridor. In order to diminish the risk of transference of infection the service corridor should be mainly open, but a low parapet wall may be provided. In rigorous climates and exposed situations it may be necessary to provide sliding windows so that the corridor can be closed at need, but the roof of such a closed corridor should be kept low enough to enable cross ventilation to be provided to the wards by means of windows above the corridor roof.

#### ADMINISTRATIVE SERVICES AND RESIDENTIAL ACCOMMODATION.

105. Sections VII and VIII of our Report on the Acute General Hospital will serve as a general guide to the administrative and residential requirements of an Isolation Hospital, with some modification in the direction of simplification. In a small Isolation Hospital the Administration Block and the residential accommodation may, with advantage, be combined in one building, but in no circumstances should sleeping accommodation for staff be provided in a ward block.

106. There should not be more than one entrance to the hospital site, and it is usual to provide a porter's lodge alongside the entrance to control admissions. However small an Isolation Hospital may be, there should be at least one resident male member of the staff, e.g., a porter or ambulance driver, in order that he may be available in case of emergency.

#### METHODS OF CONSTRUCTION, MATERIALS AND FINISHINGS GENERALLY.

107. The recommendations made in Section X of our First Report as to the methods of construction, materials and finishings of an Acute General Hospital are generally applicable to an Isolation Hospital.

## ENGINEERING SERVICES.

108. Section XI of our First Report is of general application, and will serve as a guide for the engineering services of Isolation Hospitals. As mentioned in paragraph 204 of that Report, there may be a special case for independent heating of individual ward blocks in the case of Isolation Hospitals, as some of the blocks may be only in intermittent occupation.

## VI.—MENTAL HOSPITALS.

### INTRODUCTORY.

109. In considering the standards to be applied to Hospitals for patients of unsound mind we have taken note of differences which exist between these Hospitals and those for the treatment of physical diseases. While it is necessary in Mental Hospitals to provide every facility for the treatment of mental illness and in large measure for physical illness as well, there are other matters relative to the care of patients which are of sufficient importance to merit consideration as separate problems.

110. In comparison with the General Hospital the proportion of ambulant patients is very high; space has to be provided in sitting and dining rooms for fully 90 per cent. of the patients resident. This has to be borne in mind when the appropriate amounts of day and night space per patient are under consideration.

When it is remembered also that many remain in a Mental Hospital under treatment for long periods there can be no doubt that day accommodation is needed, entirely separated from the dormitories and including provision for indoor exercise and for suitable occupation and entertainment.

111. The sub-division of the Mental Hospital accommodation into ward units of limited dimensions is necessary in the first place because, if the group is too large, the burden of the nursing staff is such that they cannot endure it. Accommodation must also meet the need for classification of patients in accordance with the differences in their physical and mental condition. In addition to the accommodation provided for convalescent and trustworthy patients special provision must be made for those who are noisy or dangerous or violent, and for those who for one reason or another require close or constant supervision or who need specialised accommodation and nursing on account of recent acute physical or mental illness. And, lastly, patients who are infirm and senile will need accommodation separate from that provided for patients of more vigorous habits.

112. In addition to adequate accommodation for the care and treatment of patients there should, in our view, be a reasonable standard of comfort. The majority may not leave the Hospital when they wish to do so; they are detained under Orders depriving them of their liberty, and detention may be enforced for long periods. We feel that no patient should have cause for a sense of injustice arising from the inadequacy of the accommodation provided. Moreover, the efforts to secure early treatment by the admission of voluntary patients to Mental Hospitals will be more likely to succeed if the comfort as well as the medical treatment of the patients is taken into consideration.



113. The arrangement of the buildings in Mental Hospitals partly depends on the necessity for the separation of sexes. In order to secure for patients a measure of freedom it is desirable to site the buildings for each sex some distance apart, and to use certain other buildings not occupied by patients as a boundary line between the gardens and grounds allocated to men and women.

114. The nursing staff consists of male as well as female nurses, and for these there must be some duplication of buildings for recreational and domestic purposes.

115. It will be clear from the statements we have made that a Hospital for patients suffering from mental disorders must combine the characteristics of a Hospital and of a residential establishment forming a social unit in which provision is made for medical treatment and nursing, for re-education and occupation, and for exercise and recreation.

#### SIZE OF HOSPITAL.

116. When we came to consider what should be the size of a Mental Hospital we found that the point had on two occasions in recent years been the subject of independent investigation. The Committee on Administration of Public Mental Hospitals, under the Chairmanship of Sir Cyril Cobb, which reported in 1923 [Cmd. 1730], recommended:

“ That for the future the size of Mental Hospitals should so far as possible be limited to accommodation for 1,000 patients of all classes, and that the advantages of a central institution of relatively small wards supplemented by a series of detached pavilions should be carefully borne in mind; in particular, the reception wards and convalescent wards should be in separate buildings from the main wards of the Institution ”.

The Royal Commission on Lunacy and Mental Disorder, under the Chairmanship of Lord Macmillan, which reported in 1926 [Cmd. 2700], recommended:—

“ That in future Mental Hospitals should be designed to accommodate not more than 1,000 patients, and that in the design of the Hospital the villa system should be adopted ”.

It is recognised that there are differing opinions on what should be the maximum size of a Mental Hospital, but we consider that this is not a matter which we need re-open, as it would appear that there are now no new conditions existing to justify such a detailed and prolonged investigation. We are aware also that the above recommendations have been accepted by successive Ministers, but we understand that the limit of 1,000 beds has not been enforced in the case of extensions to existing Hospitals where such extensions are designed to improve the therapeutic facilities and not merely with a view to increasing the accommodation.

For the purposes of this Report we have adopted 1,000 beds as a convenient size for description.

#### CLASSES OF PATIENTS TO BE PROVIDED FOR.

117. It has been usual to treat men and women in the same Mental Hospital and to permit association as part of the weekly or daily entertainment in the recreation hall or on the main sports ground. On the question whether there should be separate Hospitals for men and women we have found opinion almost universally in favour of a combined Hospital for the two sexes. We therefore express our approval of what is the usual arrangement, and propose to consider in due course the standards necessary for the planning of a Hospital for men and women.

118. It is most important to estimate what is likely to be the proportion of males and females in any Hospital serving a district. Figures vary to some extent in different areas, but we are informed that the average proportion per cent. of the sexes in the Mental Hospitals throughout England and Wales is approximately 44 males and 56 females. In any district, therefore, where the average proportion of the sexes prevails it would be right when designing a Hospital for 1,000 beds to make provision for approximately 440 men and 560 women.

119. When it is proposed to build a Mental Hospital for a smaller number of patients than the ultimate number to be accommodated it is important that the administration departments and the patients' accommodation should be designed in the first instance for that maximum number. This is necessary not only because the administration departments would otherwise prove too small, but because the siting of buildings for particular types of patients must have a definite relation to those for other patients and to the service departments.

120. For purposes of classification we have adopted the types set out by the Board of Control in their Suggestions and Instructions for Mental Hospitals (1933). Provision should be made for separate ward units for the following groups of patients. The percentage proportions given are approximate.

<i>Groups.</i>	<i>Patients.</i>	<i>Per cent.</i>
A.	Recent and recovering ... ..	10
B.	Sick ... ..	7
C.	Able-bodied, trustworthy and working, on parole ... ..	20
D.	Disturbed and excited ... ..	16
E.	Senile and infirm ... ..	7
F.	Epileptic ... ..	10
G.	Undefined types—quiet, able-bodied patients, not on parole ... ..	30

121. The necessity for classification of patients into the groups set out above is based on a number of factors. It will be clear that separate provision from all others should be made for the sick and for the senile and infirm. With both these classes of patients arrangements for special nursing are necessary, and it will be readily accepted that the senile and infirm patients who are mostly old should be housed and nursed apart from younger patients who are suffering from ordinary acute illnesses. Disturbed and excited patients must be cared for in small groups separated from the main body of patients who are quiet and well behaved. The practice which has grown up recently of making provision for both sexes of this group in a building well removed has much to recommend it. We see in it many advantages to those who would be upset by the proximity of agitated, restless and uncontrolled patients. Not only this, but it makes the care and nursing of these disturbed patients easier, because in small groups more individual care is possible and the remedial or soothing effects of medical treatment or occupation can be better investigated. The division of the quieter able-bodied patients is partly one of administrative convenience to permit the fullest use of parole, and a little also because some classification is desirable according to type, interest or occupation. The separation from others of patients who suffer from epilepsy is, we find, theoretically sound, but cannot always be closely followed in practice. Epileptics themselves are so varied in type, in character, and in mental condition that a clean cut classification is almost impossible. Nevertheless, so far as the condition of the individual patient allows, the separate classification of epileptics is desirable.

122. The Mental Treatment Act, 1930, provides for the reception of voluntary patients in Mental Hospitals, and for others recommended for "temporary" treatment but whose condition precludes them from taking advantage of the voluntary provisions of the Act. For such cases, and for those newly admitted to the Mental Hospital under certificate, it is recommended that a separate group of buildings be provided at each Mental Hospital where curative measures may be adopted in the early stages of mental illness with the prospect of convalescence and recovery without the patients associating with others suffering from prolonged symptoms of mental disorder. Such a group of buildings might properly be described as the Early Treatment Centre, and should comprise at least a conjoint Admission Hospital for both sexes and a Convalescent Home for each sex. It is important, however, that neither the Admission Hospital nor the Convalescent Homes should provide accommodation for a larger number of patients than could be reasonably expected to require it; and, as from experience it is found that the proper arrangement of these buildings does not facilitate extension, it is recommended that on each side of the Admission Hospital



two sites should be reserved for (a) a villa for semi-convalescent, and (b) a villa for the milder cases of mental disturbance not requiring the active treatment of the Admission Hospital. It is thought that such an arrangement would provide for the possible needs of all cases, without involving unnecessary initial expenditure on ultimate requirements which could not with any degree of certainty be estimated at the outset. In the circumstances, and as they would be relatively small units, it is thought proper to exclude the accommodation of these contingent villas from the schedule of the initial accommodation of the Hospital (see paragraph 120 above), all the more so as at present there is by no means general agreement as to the necessity for these units.

#### SITE AND GENERAL LAY-OUT.

123. We attach great importance to the site chosen for a Mental Hospital. It should not be surrounded by the activities of urban areas and should not be so far in the country as to be inaccessible for patients who are on parole. Where a Hospital is situated in the country far away from the town or from the industrial centres of the area it is to serve, there is often difficulty in providing for the staff opportunity to enjoy the social advantages of town life. It would appear, therefore, that while a Mental Hospital should be situated in the country, it should, if possible, be sited somewhere near a main road and within easy access of a town.

124. The area of the land to be purchased is partly dependent on the cost of land in the district and on the extent to which outdoor occupation is to be used as a mode of treatment. It is necessary to give within the boundaries of the estate sufficient ground on which to place the buildings and to provide space for gardens, roads, facilities for recreation and outdoor exercise for patients, and for such extensive vegetable gardening as will provide for the needs of the Hospital. For a Hospital of 1,000 beds an estate of suitable shape and contour should have an area of not less than 150 acres. If farming operations are to be undertaken additional land must be acquired. In deciding on the area required the Local Authority should bear in mind possible difficulties arising from developments in the vicinity which might seriously interfere with the free use by patients of the Hospital grounds. If the Local Authority providing the Mental Hospital are themselves not the Town Planning Authority of the area they should enquire whether there is any town planning scheme existing or proposed which might render the area unsuitable as a site for a Mental Hospital.

125. The site selected should be where a supply of water is available and where electricity can be obtained, preferably from public services. The quantity of water should normally

be not less than 45 gallons per head per day for the number of patients and staff to be accommodated. If the supply is not available from a public service it would be unwise to acquire land until it is clear that a suitable supply of water can be obtained in sufficient quantity to meet ultimate needs. If the foul and surface water drainage cannot be connected to public sewers, sufficient land should be purchased to enable the foul drainage to be dealt with on the site, and as far from the buildings as may be necessary to avoid nuisance.

126. A complete lay-out of a Mental Hospital should provide sites for the following buildings:—

(a) Main group of buildings comprising an administrative department with stores, kitchen, laundry, boiler house, recreation hall, visiting rooms and gymnasium.

(b) On either side of the main group of buildings a series of detached villas for epileptics, for the senile and infirm, and for a group of non-parole patients.

(c) A detached Admission Hospital for both sexes, supplemented by separate homes for convalescent patients. Sites should be reserved in case special villas are required for semi-convalescent patients or for the treatment of the milder type of voluntary patients. These buildings should form a group apart from the main group of buildings and should be readily accessible from an entrance to the estate. The buildings for male and female patients should be so related as to permit free use by the men and women of the portions of the grounds allotted to them.

(d) A detached hospital for the sick. It should be situated in convenient relation to both sides of the Mental Hospital, and should consist of two wings (one for men and one for women) divided by a medical unit or treatment centre.

(e) A detached building for the accommodation of the excited and disturbed patients of both sexes. The section should be in a secluded situation and well away from the main roadways on the estate.

(f) A group of detached villas on each side for patients suffering from continuing mental disorders but who are nevertheless trustworthy. These should include accommodation for parole and some non-parole patients.

(g) Occupation centres in the form of workshop buildings on each side of the Mental Hospital and situated in convenient relation to the main group of villas. A separate centre may be needed for excited and disturbed patients.

(h) Residences for the medical, administrative and nursing staff.

(j) A canteen or shop and refreshment room for the use of patients and their friends. This should be situated somewhere on the centre line to provide easy access from both sides of the Hospital.

(k) A detached church.

(l) Farm buildings, if farming is undertaken.

127. The accommodation for patients is divided into a series of ward units which are self-contained and which provide the necessary day and night space in dayrooms and dormitories with some single-bed rooms and the ancillary rooms required for ordinary day to day purposes. A ward unit may be entirely on one floor, or the day and night space may be provided separately on two floors. We find that it is now the generally accepted practice in Mental Hospitals to erect buildings of not more than two storeys. For reasons directly connected with the mental condition of patients under treatment it has been found inadvisable to make use of lifts; and for those reasons, and in view of the risk of fire, high buildings are not suitable for a Mental Hospital. With single or two storeyed buildings it is easier to maintain a satisfactory degree of separation between patients of differing mental types both in the wards, on the stairway and in the adjoining gardens.

#### THE SIZE OF WARD UNITS.

128. The cost of administering a Hospital is to same extent dependent upon the size of the ward unit; with large units there may be some economy in staff and in the general arrangements for the care of the patients. The maximum number to be recommended for the ward unit must depend on the ability of the sister-in-charge to maintain personal contact with each one of her patients, and generally to establish such personal relations as will facilitate proper care and nursing. It must also to some extent depend on the need for proper classification of patients within the Mental Hospital. The size of the unit, depending upon the type of patient under treatment, must of necessity vary within wide limits, but we are of opinion that no single ward unit in a Mental Hospital should have more than 50 patients, and that for certain types the number may be 15 to 20.

#### THE ORDINARY WARD UNIT.

129. The ordinary ward units are in detached villas which accommodate either patients suffering from continuing mental disorders but who are nevertheless trustworthy and working on parole, or quiet able bodied patients of undefined types who are not on parole.

#### *Day Space.*

130. The dayrooms include those rooms within the ward unit which are used by patients as sitting rooms and dining



rooms. The standard of day space suggested by the Board of Control for ordinary ward units is 40 superficial feet per patient. It may be set out as a single large dayroom or as several rooms, one of which is designed for use as a dining room. It is generally agreed that a single large dayroom, though facilitating supervision, is in other respects unsatisfactory.

In considering the adequacy of the standard of day space at present adopted we have given due weight to the need for providing a reasonable standard of comfort. Patients who, though mentally ill, are fully aware of their surroundings, find in any degree of crowding a source of irritation and mental distress. While dayrooms are intended primarily as sitting and dining rooms, it should be remembered that many other activities are carried on in them. They are used for indoor entertainment and constantly as centres for the occupational treatment of patients who are unable to work with other groups of dissimilar type. Taking all these matters into consideration, we agree that in an ordinary ward unit the standard of day space should not be lower than 40 superficial feet per patient for the total number of patients. The dining room may be used also as a sitting room. The other day space should be sub-divided; a simple arrangement of adjoining rooms enables the patients to divide up into small groups without making supervision by the nurses unduly difficult.

#### *Night Space.*

131. The present standard of 50 superficial feet suggested by the Board of Control has existed for many years and is applied to all patients except the sick, senile and infirm, and recent cases. Dormitories are commonly 20 feet wide permitting two rows of beds. In the older Mental Hospitals there exist dormitories of large size, and in these the standard of 50 superficial feet permits the arrangement of beds with approximately 5 feet between bed centres. In recent years it has become clear that a large dormitory provides a low standard of privacy and comfort, and is in many other respects unsatisfactory. Consequently, for restless and disturbed patients, for recent cases and for those requiring much nursing attention, small dormitories of from 4 to 16 beds are now generally adopted. We agree that the newer arrangement is in every respect more satisfactory, and we would suggest that no dormitory, even for quiet well behaved patients, should have in it more than 30 beds.

132. The dormitory is the patient's bedroom where he dresses and undresses, where he may store his clothes in a bed locker or on a chair, and where he sleeps and receives the nursing attention he frequently needs during the night, either for physical reasons or because his mental condition has resulted in unsatisfactory habits. As the floor space available must include in

each dormitory the gangways, the entrances and exit spaces around the door, space for the requisite furniture and for a night nurse, when required, it is clear that in small dormitories with an allowance of only 50 square feet per bed the beds must of necessity be placed so close together as to make ordinary activities and nursing a matter of some difficulty. The evidence given to us suggests, therefore, that with the present standard of 50 superficial feet there is not sufficient space for the normal activities of each patient and the working room for the nurses. Consequently, we recommend as a minimum standard for healthy and active patients, other than those recently admitted, a distance of 5 feet between bed centres, but care should be taken to see that in no case is the minimum floor space less than 50 superficial feet per patient. Care should be exercised in the planning of dormitories to ensure that the loss of effective wall space for beds should be minimised.

133. The width of dormitories in most Mental Hospitals built during the present century is 20 feet. But as it has become the practice in institutions for the mentally defective to use a width of only 18 feet we have considered the possibilities of a reduction in width in Mental Hospitals also. Some of our witnesses favoured a width of 18 feet in certain dormitories in order to secure without additional cost a greater distance than 5 feet between bed centres. We agree that from a purely medical point of view distance between the beds is of more importance than width of ward, but on the whole we are inclined, in the interests of general convenience, to favour the wider dormitory. The width of 20 feet appears to us to be a good general standard which might be applied to dormitories throughout the Mental Hospital.

134. In all the ward units there should be one or more single-bed rooms for patients. The number of single-bed rooms will vary in different ward units, and we agree with the suggestion of the Board of Control that not more than one-fifth of the total accommodation of the Hospital need be provided in this form. Single-bed rooms for active physically healthy patients should have a minimum width of six feet six inches and an area of about 65 superficial feet.

135. Having regard to our recommendation that a width of 20 feet should be applied to dormitories throughout the Hospital, we are satisfied that, under normal conditions, a height of 10 feet is sufficient for dormitories and dayrooms. The height of single-bed rooms and ancillary rooms will normally be determined by that of the dormitories and dayrooms, but where that is not so we regard a height of 9 feet as sufficient for these rooms.

*Ancillary Rooms in an Ordinary Ward Unit.*

136. The following rooms are ancillary to the main day and night rooms for patients:—

- (a) Nurses' bedrooms.
- (b) Clinical and duty room.
- (c) Storerooms.
- (d) Serving kitchen and small larder.
- (e) Cloak and boot room.
- (f) Sluice room *or* sink room.
- (g) Foul linen room.
- (h) Cleaners' room.
- (j) Drying room.
- (k) Patients' lavatories and W.Cs.
- (l) Staff cloakrooms.
- (m) Patients' bathrooms.
- (n) Coal store.

(a) *Nurses' bedrooms.* (See paragraph 166.) There should be bathing and sanitary conveniences for nurses in the same building.

(b) The *clinical and duty room* serves as a place where the medical staff can examine and treat patients and write up their clinical records and as a duty room for nurses where instruments, dressings, medicine and nursing records can be kept. In the Admission Hospital and Sick Hospital it may be better to provide a nurses' duty room separate from the clinical room.

(c) *Storerooms* are required for the storage of patients' clothes, ward linen, and other items of ward stock. The arrangement of pigeon holes and shelves is important in order to keep separate the individual clothes of the patients, and there should be sufficient space to allow dresses and suits to be hung unfolded. In ward units where patients are able to look after their own property storage space should be supplemented in the dayrooms or corridors by small lockers for the personal use of each patient. The number and size of the storerooms must be determined by the details of planning, but in any event there should be not fewer than two such rooms available for this purpose.

(d) The *serving kitchen*, with a small *larder*, should be near the dining room. There should be facilities for washing up and for the storage of crockery, and there should be a suitable plate warmer and some means of boiling water.

(e) The *cloak and boot room* should be close to the patients' entrance. The cloakroom, the washing-room and the W.Cs. can be conveniently planned on the ground floor *en suite*, so that patients can pass easily from one room to the other.

(f) (i) In any ward unit where patients are nursed in bed, or where there are patients of defective habits, a *sluice room* is



required. It should provide sufficient space for a combined hospital bed-pan and scalding sink fitted with a mackintosh slab, shelving for sanitary utensils, a mackintosh drying rack, a bath, and a large ventilated cupboard for storing cleaning materials and buckets used in the sanitary annexes. In ward units where patients are nursed in bed the sluice room may with advantage have an entrance direct from the dormitory.

(ii) In ward units where no sluice room is necessary there should be a *sink room*, large enough to contain a hopper sink and space for the storage of implements and cleaning materials used in the sanitary annexes.

(g) In all ward units a small compartment leading off the sluice room, or one adjacent to the sink room, is required for *foul linen bins*. If this is on the ground floor there should be access to it from the outside.

(h) The *cleaners' room*, which should be situated apart from the sanitary annexe, should contain a Belfast sink with draining board and have floor space and hanging space for storing brushes, brooms, floor polishers and buckets for domestic use.

(j) In the ward units for working patients, a *hot cupboard* or *small drying-room* should be arranged for drying boots, socks and other clothing.

(k) (i) *Lavatory basins*, in the main washing place, should be provided in the proportion of one basin to six patients. In ward units of two storeys the provision of a single washing place on the ground floor for day use facilitates the concentration in and around one room of many services comprising a lavatory, cloakroom, bootroom, W.Cs., drying cupboard, storage for patients' towels, mugs, hair brushes and toothbrushes, and such minor equipment as a footbath, a drinking fountain and mirrors. Thus, not only do the patients have ready access to the full washing facilities throughout the day, but the grouping of conveniences makes it easier for the nursing staff to train the patients in personal hygiene. The convenience to active patients in the dormitories on the first floor is not in our view affected if the washbasins are in a room close to one of the stairways giving access to the dormitories. If, however, it is considered necessary to have washing arrangements on both floors the full number of basins (e.g., one basin to six patients) should be provided on each floor; as, failing this, there must always be overcrowding and lack of privacy. Where the washing arrangements are concentrated on the ground floor, the only basins needed on the upper floor will be such as are necessary in conjunction with W.Cs. for night use and in the dormitories for nurses on duty.

(ii) *Water closets* in the proportion of one to eight patients for day use, and not less than one to thirty patients for night use, should be sufficient. Dormitories should have W.Cs. adjoining

available for the use of patients at any time during the night. In ward units for active and trustworthy patients the sanitary conveniences used by day might also serve for night use if there are no intervening rooms or corridors through which the patients might have access to other parts of the building during the night.

(l) *Staff cloakrooms* should contain a W.C. and a lavatory basin, and there should be long lockers for storing outdoor clothing and overalls.

(m) In the *patients' bathrooms* there should be room on either side of the bath for the nurse to assist the patient, as well as space for dressing and undressing. Baths may be in the proportion of one to about twenty patients.

(n) *Coal Store*. This need only be large enough to hold a week's supply of coal for domestic purposes such as dayroom and ward kitchen fires.

137. The sizes of some of the rooms referred to above should be approximately as below:—

Nurses' bedroom	...	...	100 square feet.
Clinical and duty room	...	...	144 square feet.
Storerooms	...	...	5 superficial feet per patient.
Kitchen	...	...	175 square feet.
Sluice room	...	...	165 square feet.
Sink room	...	...	20 square feet.
Cleaners' room	...	...	35 square feet.
Bathroom	...	...	130 square feet for two baths.

The combined space for cloaks, boots and lavatory basins should average 9 superficial feet of floor space per patient.

## BUILDINGS FOR SPECIAL TYPES OF PATIENTS.

### *Admission Hospital.*

138. The Admission Hospital is set apart for the reception and treatment of patients on admission to the Mental Hospital. It should consist of two wings, one for each sex, and a central portion for common services and for a treatment centre. All new admissions, whether certified patients, or temporary or voluntary patients under the Mental Treatment Act, 1930, are received here for thorough examination and study preliminary to distribution for treatment to the appropriate section of the Mental Hospital. A large proportion of the patients will, however, remain in the Admission Hospital until sufficiently recovered for transfer to Convalescent Villas or for discharge from the Mental Hospital. The accommodation provided in the Admission Hospital need not exceed six per cent. of the total number of beds. This does not include any beds provided in separate villas for cases of mild mental illness admitted under the Mental Treatment Act.

139. The accommodation in each wing of the Admission Hospital should consist of bedrooms and sitting rooms in three separate groups, two of which would have small dormitories and some single-bed rooms, with adjoining verandahs for open air treatment. In the third group, the bedrooms should all be single rooms for the accommodation of patients who require segregation or special treatment. The total number of single rooms need not exceed one-fourth of the number of beds in the Admission Hospital. The above accommodation should preferably be arranged on the ground floor, and if further day and sleeping accommodation for a group of patients improving under treatment is required the appropriate dormitory and sitting rooms might be arranged on the first floor.

140. Adjoining each wing there should be a small waiting room for visitors and two clinical rooms in which patients are examined on admission.

The central portion of the building, between the two wings, should have in it a service kitchen, a room for associated entertainment of patients and for occupational treatment, and also the rooms required to accommodate the apparatus for investigation and for treatment. There should also be an office for the social worker, and, if necessary, a mess room or rooms for the nursing staff.

The main provision for diagnosis and treatment should be concentrated in the Admission and Sick Hospitals, but the distribution of the facilities between these two centres is a matter on which there may be a difference of opinion.

141. The standard of accommodation suggested for the ordinary ward unit will not be sufficient for the Admission Hospital because it is dealing with recent and acute cases which require constant attention and nursing. We have given very full consideration to this matter and have taken the views of a number of witnesses on the space required for the nursing of recent cases. As a result, we are of the opinion that with a dormitory 20 feet wide a distance of 7 feet between bed centres will be adequate. Single-bed rooms should have a floor space of 100 superficial feet. In the dayrooms accommodation should be provided for the total number of patients at the rate of 40 superficial feet per patient. The ancillary rooms should be similar to those in ordinary ward units.

#### *Convalescent Homes.*

142. It is usual to build for each sex a Convalescent Home to accommodate the patients who are sufficiently recovered to require little supervision, but who are not yet well enough to leave the Mental Hospital. The number of beds should not be in excess of the number which experience has shown to be necessary. It is thought that 15 to 20 beds would be required



for each sex. So far as possible the construction of the Convalescent Homes should be of the simplest type and approximating to that of an ordinary house of two storeys. The bedrooms for patients may to some extent consist of cubicles divided by partitions, supplemented by small dormitories each for not more than three or four beds. The ancillary rooms should provide only what is necessary for the requirements of active patients who are in large measure able to look after themselves. The standards of day and night space should be those of the ordinary ward unit.

### *Sick Hospital.*

143. The Sick Hospital provides for the nursing and segregation of those patients who are suffering from physical illness. The extent of the provision necessary (including that for tuberculous patients) is usually about 7 per cent. of the total number of patients in the Mental Hospital. The beds for male and female patients would normally be arranged in two wings separated by a medical unit. Each wing should contain at least two separate, but contiguous, sections for patients of different types, a verandah and a dayroom. Two or three single rooms are needed for the nursing of patients who, for one reason or another, cannot associate with other sick patients.

144. The separate accommodation for the isolation and treatment of patients suffering from tuberculosis might be arranged as an annexe to each side of the Sick Hospital, in which case the sister-in-charge should have the supervision also of this section. The provision on each side of six to eight beds, partly in single-bed rooms with a verandah for open air treatment should suffice. There should be a small dayroom. The annexes might be connected by covered ways to the corresponding wings of the Sick Hospital.

145. On the necessity for the provision of bedrooms for the segregation of patients suffering from infectious diseases or for occasional cases of typhoid or dysentery excretors we have not found entire agreement. It would appear to us that while two or three separate rooms are necessary in every Mental Hospital, the extent of the provision must depend upon the incidence of conditions of this type. It should be possible, in any event, to arrange the isolation section, if it is to be a small one, as a supplementary annexe to each wing of the Sick Hospital.

146. The floor space to be provided for sick patients should be sufficient to give a distance of 7 feet between bed centres, but there should be additional facilities for the treatment of patients on adjoining open verandahs. In single bedrooms the superficial area should not be less than 85 square feet.

In view of the fact that a proportion of the patients will remain in bed throughout the day, dining and sitting room accommodation may be arranged at the rate of 40 superficial feet per patient for one half of the number of beds in the Sick Hospital. Patients suffering from tuberculosis will, of course, be provided for separately from the others. The ancillary rooms should be similar to those in ordinary ward units.

*Section for Excited and Disturbed Patients.*

147. In order to make some separate provision for patients under continued treatment who are disturbed and difficult, it has been thought desirable to house them in buildings well removed from the main group without being so far apart from it as to make the provision of ordinary services difficult. The need for making this special provision arises largely from the effect excited and troublesome patients have upon the other patients in the Mental Hospital. Opinion generally favours some such arrangement, and we agree that the advantages accruing from segregation outweigh any administrative inconvenience arising from the relatively remote position of the buildings. Among other reasons, owing to the difficulty of finding two suitable sites the Board of Control have suggested a conjoint unit for both sexes which would be situated in some secluded part of the grounds and away from the main traffic routes.

148. The accommodation is best arranged in ward units of small size containing not more than 30 to 35 beds, with the day space sub-divided to give some classification within the ward unit. In our view, for this class of patient no dormitory should have in it more than 16 beds. About a quarter of the total number of beds should be in single rooms. On the need for padded rooms opinion is divided. Perhaps it would be wise to design a single-bed room on each side so that they could, if necessary, be fitted up as padded rooms. In planning this section, and in providing small sitting rooms and dormitories for patients, due note should be taken of the need for close supervision. Economy of staff results when rooms arranged to give separation at the same time permit easy supervision of the patients.

149. In addition to the accommodation for patients it will be convenient to arrange here for a small treatment centre giving facilities for hydrotherapy in the treatment of acute excitement and for rooms for the occupational treatment of the patients. A small room for visitors will be required, and this may conveniently be provided in the treatment centre.

150. The floor space in the dayrooms for disturbed and excited patients should, we think, be a little higher than that in the ordinary ward unit. A good standard would be 50 superficial

feet per patient. In other respects the standards, including ancillary rooms, given under the ordinary ward unit are generally applicable, but a proportion of the single rooms should be slightly larger to facilitate the nursing of specially difficult patients.

#### *Ward Units for the Senile and Infirm.*

151. This class represents about 7 per cent. of the patients in a Mental Hospital, and includes only those of the older patients who need much care and nursing. The senile and infirm patients are a mixed group. Some of them are physically active older people similar to patients found in infirm wards of Public Assistance Institutions; others are helpless aged people such as may be found in some of the chronic wards of Municipal Hospitals. In all cases, however, the mental symptoms are a prominent feature.

152. We have some difficulty in determining a standard of bed space for a mixed group, some of whom are confined to bed only for short periods during the year and others who are bed-ridden. If we lay down for them an average standard, it may be possible to make, as required, adjustment of spacing to meet the varying conditions. The problem is made a little easier because some of these patients can be nursed on verandahs during many months of the year. We suggest, therefore, that with a dormitory width of 20 feet and two rows of beds an average standard of 6 feet between bed centres would suffice to provide room for the activities of both patients and nursing staff.

In single-bed rooms the superficial space should not be less than 85 feet.

153. A number of the senile and infirm patients will be sitting up during part of the day, and as there is no room for them in the dormitory some dining and sitting room accommodation will need to be provided nearby. In order to prevent overcrowding of patients who are peculiarly liable to accidents and falls it would, we think, be wise to provide day space at the full rate of 40 superficial feet per patient for about three-quarters of the number in this group. The ancillary rooms should be similar to those in ordinary ward units.

#### ROOMS FOR SPECIAL PURPOSES.

##### *X-Ray Room.*

154. It is frequently impossible to take patients to a General Hospital for X-ray examination, and for this and other reasons an X-ray department is a normal provision in the Mental Hospital. A room equipped with an X-ray apparatus may be placed either in the treatment centre of the Admission Hospital or the Sick Hospital.



*Operating Theatre.*

155. Though the number of major surgical operations performed in a Mental Hospital is not large, the impossibility of nursing mental patients in the wards of a General Hospital makes it necessary to have specific provision for operations made in the Mental Hospital itself. We wish, however, to emphasize the need for economy in making this provision. Essential requirements must be met, but the limited number of cases arising in a Mental Hospital does not justify the elaborate arrangements necessary in a General Hospital, and the lay-out of the rooms should be a simple one. The operating theatre should be situated in the treatment centre of the Sick Hospital.

*Laboratory.*

156. There should be a clinical laboratory in which may be carried out routine investigations for the diagnosis of physical conditions, and particularly there should be facilities for bacteriological investigation whenever epidemic diseases arise. The question whether a research laboratory should be established in a particular Mental Hospital is a question for the Local Authority. We may observe that while the advantages of centralised research are emphasized by everybody it should not be forgotten that desire for research should receive encouragement wherever it may arise.

*Dental Rooms.*

157. A dental room should normally be situated in the Sick Hospital or at some other point convenient for the majority of the patients. It is a good arrangement to have a small supplementary dental room in the Admission Hospital where recent cases can be treated separately from the others.

*Hydrotherapy.*

158. Continuous treatment by warm baths has been found useful in many mental disorders, and particularly for patients suffering from persistent excitement. It will therefore be desirable to have facilities for this treatment at the Admission Hospital and in the unit for excited and disturbed patients. If a special hydro-therapeutic department is to be established it would probably be better to have it situated in the Admission Hospital where it would be available also for the treatment of the acute and recent cases.

*Massage, Electrical and Light Treatment.*

159. A room should be set apart for these purposes in the Admission Hospital or in the Sick Hospital. Sub-division by curtains or partitions will give the required separation without interfering with the effective supervision of patients undergoing treatment.

*Dispensary.*

160. The dispensary and store may be placed in the treatment centre of the Sick Hospital or as part of the central block of buildings near the official block. Suitable areas would be about 250 square feet for the dispensary, and about 150 square feet for the store.

## RESIDENTIAL ACCOMMODATION FOR STAFF.

161. The staff requirements of a Mental Hospital differ widely from those of an Acute General Hospital. There is also considerable variation in this respect between different Mental Hospitals, as the extent of the residential accommodation to be provided will, to some extent, be determined by the situation of the Hospital. In one case, where the Hospital is situated near a town, some members of the nursing staff may live out; but in another, where residences in the immediate district of the Hospital are not available, it may be necessary to provide accommodation for all the female staff and to build cottages on the estate for the married male staff.

We are therefore unable to make specific recommendations, but the following schedule (based on a duty period, excluding meal times, of 48 hours per week) of the approximate numbers of the nursing and domestic staff required in a Mental Hospital of 1,000 beds may be of some assistance to those who have to determine the extent of the residential accommodation to be provided on the Hospital estate. In a well established Mental Hospital, approximately 75 per cent. of the male nursing staff are married.

Matron	...	...	...	1
Assistant Matrons	...	...	...	2
Sister Tutor	...	...	...	1
Home Sister	...	...	...	1
Night Sister	...	...	...	1
Female Charge Nurses	...	...	} on basis of 1 nurse to 4.5-4.7 patients.	
Female Nurses*	...	...		
Male Head Nurse	...	...	...	1
Male Assistant Head Nurse	...	...	...	1
Male Night Head Nurse	...	...	...	1
Male Charge Nurses	...	...	} on basis of 1 nurse to 4.5-4.7 patients.	
Male Nurses*	...	...		
Female Occupations Officer	...	...	...	1
Male Occupations Officer	...	...	...	1
Cook	...	...	...	1
Assistant Cook	...	...	...	1
Laundress	...	...	...	1
Assistant Laundress	...	...	...	1
Sempstress	...	...	...	1
Domestic Staff and Maids	...	...	...	22

\* Does not include technical officers in charge of occupation rooms.

162. Subject to the above, the arrangements for the residential accommodation of staff, including the Nurses' Home, should in general follow those suggested in Section VIII of our Report on the Acute General Hospital; but it may be convenient to set out here the main features, with an indication of the standards on which we have agreed.

### *Official Residences.*

163. For the Medical Superintendent of a Mental Hospital of 1,000 beds the official residence might contain three living rooms, five or six bedrooms, two bathrooms and a cloakroom, a large kitchen or a small kitchen and maids' sitting room.

For a senior Medical Officer the house might have three living rooms, four bedrooms, bathroom and kitchen.

Unmarried Medical Officers should have quarters in some part of the central portion of the buildings and commonly on the upper floor of the official block. Each unmarried Medical Officer should have a sitting room and a bedroom, with a total superficial area of about 300 square feet, and there should be a common dining room with a serving pantry. An extra sitting room and bedroom should be provided for a locum tenens.

The residences for married members of the staff should, if possible, be so situated on the estate that access to and from the public road need not be through the main portion of the grounds of the Hospital.

164. A separate house may be provided for the Matron or she may be accommodated in the official block or in a separate section of the Nurses' Home. If a separate house is not provided, her quarters should be self-contained and should comprise rooms of the following areas: sitting room, 150 square feet; dining room, 150 square feet; two bedrooms, 150 and 120 square feet; kitchenette, 100 square feet; together with bathroom, W.C., and storage accommodation.

165. It is suggested that the official residences should not exceed the following total areas within external walls:—

	<i>Square feet.</i>			
Medical Superintendent	...	...	...	3,000
Senior Medical Officer	...	...	...	2,250
Other Medical Officers (if a house)	...	...	...	1,650
Clerk and Steward	...	...	...	1,650
Clerk of Works	...	...	...	1,500
Male Head Nurse	...	...	...	1,200
Head Engineer	...	...	...	1,100
Head Gardener	...	...	...	1,100
Staff Cottages (parlour type)	....	...	...	950
Staff Cottages (non-parlour type)	...	...	...	850



*The Nurses' Home.*

166. Each resident nurse should be provided with a separate bedroom, and in the interests of the nurses themselves, we should prefer that all such bedrooms be provided in a detached Nurses' Home. We recognise, however, that in a Mental Hospital it may be essential that some of the nurses should sleep in or adjacent to the ward units where, while being ordinarily free from disturbance, they may be available in cases of grave emergency. It should be borne in mind that in a large Mental Hospital the Nurses' Home may be far removed from the great majority of the ward units, so that in an emergency it would be impracticable to rely upon immediate assistance from the Home. For that reason, we adopt the recommendation of the Board of Control that in each ward unit there shall be a nurse sleeping so near each dormitory as to be immediately available (by call bell) in cases of emergency. Though junior nurses may occupy these bedrooms, such occupation is not continuous but is interrupted by periodic residence in the Nurses' Home. In these circumstances, while it may be thought desirable that each nurse should be provided with a bedroom in the Home for her exclusive use, the fact that bedrooms must be provided in the ward units, and that to the same extent the corresponding number of bedrooms in the Home would always be unoccupied, would, in our view, involve expenditure which could not be justified. We are of opinion, therefore, that the number of nurses' bedrooms included in the ward units should be taken into account in arriving at the accommodation to be provided in the Nurses' Home.

167. In paragraph 129 of our Report relating to the Acute General Hospital we recommended that in the provision of common rooms 20 square feet should be allowed for each staff nurse and 12 square feet for each probationer, the number of occupants being reckoned as two-thirds of the total staff of each of those grades. In view of the fact that Mental Hospitals are commonly situated in districts a little remote from towns and that the common rooms for nurses are therefore likely to be more fully used, we recommend that the number of occupants, for the purposes of applying this standard, should be reckoned as the total staff of each grade.

168. The training school might be situated in the Nurses' Home, but as in a Mental Hospital there are both male and female nurses undergoing training some of our witnesses have thought it better to have the lecture rooms and demonstration rooms sited either in the central portion of the Sick Hospital or in the Administration Block. The exact position of the training school should be decided by the Local Authority, who would provide what is in their view the best arrangement for administrative convenience.

*Domestic Staff.*

169. The domestic staff includes laundry, kitchen, needleroom and household assistants. In view of the considerable numbers who are resident (see paragraph 161 above) it may be a good plan to arrange the accommodation as a separate section of the Nurses' Home or as a separate Maids' Home.

*Quarters for Male Nurses.*

170. Our investigations show that about 75 per cent. of the male nursing staff of a Mental Hospital are married, and that where a large male nurses' block has been provided in the early stages of the development of a Hospital it has sometimes been found that bedrooms have subsequently become redundant. In order to avoid the capital expenditure involved in the erection of such a building it may be advisable, for a time at least, to house a portion of the single staff (other than any male nurses required to sleep in bedrooms adjacent to the ward units) in cottages on the estate until it is clear what is the number of single men to be provided for permanently. But, in any event, recreation rooms are required for the use of male nurses, and they might include a billiard room and a sitting room to which the men can go when they are off duty.

## ADMINISTRATIVE AND GENERAL SERVICES.

171. The buildings for the administrative and general services comprise a group of buildings most of which are arranged centrally and in large measure provide effective separation between the portions of the estate occupied by patients of different sex. They are:—

- (1) Official block in which is situated the Committee Rooms and Offices for administrative officers and clerks.
- (2) Main kitchen and bakery.
- (3) Dining rooms for resident and non-resident staff of different groups.
- (4) Central stores.
- (5) Laundry.
- (6) Recreation hall, library and gymnasium.
- (7) Visiting rooms.
- (8) Occupation rooms and workshops and workrooms.
- (9) Boiler house and maintenance workshops.
- (10) Church.
- (11) Mortuary.
- (12) Canteen.
- (13) Ward gardens and playing fields.

*Official Block.*

172. The entrance to the Hospital grounds is sometimes considered a suitable site for a porter's lodge, but often these quarters can be dispensed with and an inquiry office and telephone exchange located in the official block. There should be the following entrances to the official block:—

- (a) Main entrance to offices.
- (b) A separate side entrance for visitors.
- (c) Separate goods entrance to the stores department.

173. The following office accommodation is required:—

- (a) Medical Superintendent's office.
  - (i) Private office.
  - (ii) Office for personal clerk.
- (b) One or two offices for the resident medical staff.
- (c) Matron's office.
  - (i) Private office and attached small storeroom.
  - (ii) Office for assistant matrons and administrative sisters.
- (d) Male Head Nurse's offices.
  - (i) Private office and small storeroom.
  - (ii) Office for male administrative head nurses.

With regard to (c) and (d), if there are corridors leading to the more centrally placed ward units on either side it may be more convenient to arrange the Matron's offices and the Male Head Nurse's offices off these corridors and so in closer proximity to the ward units and more accessible for the nursing staff on each side.

(e) General waiting room. This will serve for visitors attending to see any officers of the Hospital or for some other special purpose.

(f) Committee meeting room and luncheon room.

(g) Clerk and Steward's offices.

- (i) Private office.
- (ii) General office for clerical staff.

In order to be more conveniently situated for the checking and general issue of stores an office may be arranged as part of the stores department large enough for one or two clerks.

(h) There should be a Chaplain's Room unless one has been arranged in conjunction with the Hospital Church.

174. The greater part of the accommodation in the official block should be on the ground floor; on the upper floor quarters might be provided for two Assistant Medical Officers.

In addition to the offices and quarters described there should be cloakroom and sanitary accommodation.



*Main Kitchen.*

175. In our First Report we declared in favour of a single central kitchen to serve all parts of a Hospital, but it was necessary to reconsider the question in relation to Mental Hospitals owing to the different conditions obtaining in the latter. In a Mental Hospital supplementary kitchens are sometimes arranged in the Nurses' Home and in the Sick Hospital and in the Admission Hospital. In some of the villas occupied by quieter patients the serving kitchen ordinarily provided is slightly enlarged in order to permit in it cooking for the group. The possible disadvantages of central cooking for a Mental Hospital spread over a wide area have been carefully examined, and we have considered the evidence given to us by witnesses. We have been told that in villas occupied by quiet patients the food cooked in the villa itself can be served in better condition and is more appetising than food brought from the central kitchen. There is, however, the difficulty that modern cooking implies the installation of rather expensive apparatus, and that good cooks even amongst the patients are more difficult to find than was formerly the case. The consequence is likely to be that the cost of the food cooked in this way is higher than if the food is all cooked centrally. After the fullest consideration, we feel that with modern methods of transport of food and with the facilities in every serving kitchen for making tea, warming dishes, and keeping food hot, patients can be well fed without the necessity of adopting what appears to us to be a more costly method of supply. It is our opinion that the variations of diet and the details of cooking and serving are carried out with greater efficiency and safety from infection in a central kitchen than would be the case if there were a number of kitchens scattered throughout the Hospital. Facilities should, however, be provided in the serving kitchens of the Sick Hospital and the Admission Hospital for the preparation of the smaller items of sick diet.

176. On the question whether there should be a separate kitchen in the Nurses' Home we have found differing opinions.

When the nurses' dining rooms are situated in a central position near the main kitchen it is clear that the cooking will be done in that kitchen. On the other hand, if the female nurses' dining rooms are to be in the Nurses' Home other arrangements are possible.

Some of our witnesses favour central cooking of the main meals of the day and the provision of an enlarged serving kitchen and scullery in the Nurses' Home where breakfast and tea could be prepared. As the Nurses' Home is often placed at some distance from the main kitchen, and as breakfast is frequently served at irregular hours to staff who are off duty,

good service can only be given if the hot items for the breakfast table are cooked in the Home immediately before they are served.

We have not been able to come to any definite conclusion on this matter, but we are inclined to suggest that the main meal of the day should be cooked in the central kitchen and the other meals prepared in a small kitchen in the Nurses' Home.

### *Bakery.*

177. The arrangement by which baking is carried out in the Hospital is an economical one and is to be recommended. The bakehouse may be situated in some position towards the male side of the central block of buildings, or if male staff are to be used in both bakehouse and kitchen it can be arranged alongside the kitchen so that there may be some common use of the ovens.

The bakehouse should be on the ground floor with a flour store on the upper floor. There should be an outside flour hoist. The bread cooling room may be a part of the bakehouse or may be situated near the central store from which the bread is issued. A properly equipped small sanitary annexe is essential.

### *Dining Rooms for Resident and Non-Resident Staff of Different Groups.*

178. Dining room accommodation has to be provided for male and female administrative nurses, ward sisters, female nurses and probationers, female domestic staff, male nursing staff, and clerical and other non-resident staff, but this does not necessarily imply a separate room for each group. Dining rooms for the common use of nurses of each sex of corresponding grade have been used, and the experiment is said to have been a success. A general restaurant might be provided, as a separate building, near the main kitchen so that the service of food is easy. It has, however, been pressed upon us that the dining rooms for the female nurses should be in the Nurses' Home, even though the building is at some distance from the ward units and the central kitchen. Nurses are said to prefer this because it enables them to go to their own rooms and to use the recreation rooms and other amenities in the Nurses' Home during the meal break. We are inclined to agree that this is an advantage that might properly be given to them.

The size of the dining rooms should be based on an allowance of 12 square feet per person on the maximum number expected to be present at any meal. Small tables for four to six persons should be regarded as the standard provision.

*Central Stores.*

179. The central stores should be situated in close relation to the main kitchen, and there should be separate access from the men's and women's sides of the Hospital. Other matters relating to the central stores are referred to in paragraph 105 of our Report on the Acute General Hospital.

*Laundry.*

180. If the laundry is well arranged a separate division for staff washing is not considered necessary. A separate wash-house should be provided for foul linen, where the articles should be soaked and disinfected, washed and then partially dried by a hydro-extractor, the remaining processes taking place in the main laundry.

In a suitable position near the laundry a steam or other disinfecter should be provided for the general sterilization of articles of bedding.

*Recreation Hall, Library, and Gymnasium.*

181. If the recreation hall is placed amongst the central group of buildings and near the main kitchen, it will be accessible from both sides of the Hospital, and the service of refreshments during entertainments will be easy. The proportion of patients who are likely to attend at one time will not exceed one-half of the number in the Hospital. It is important, however, from the first to make the seating capacity on the floor of the hall sufficient for that proportion of the ultimate number of patients to be accommodated in the fully developed Hospital. Floor space may be calculated at the rate of  $6\frac{1}{4}$  superficial feet per person.

A stage and separate dressing rooms will be needed for dramatic entertainments, and a cinematograph chamber of suitable design. The hall should in all respects conform with the requirements of the local Licensing Authority and the Cinematograph Acts.

182. A room attached to the hall may be set apart for use as a library and reading room, from which the librarian will distribute books to the ward units. It is, however, possible that a library may be combined with a canteen as a separate building sited so as to give easy access for both male and female patients (see paragraph 190).

183. A room should be provided adjacent to the recreation hall in which simple refreshment can be taken by patients during the course of entertainments in the hall. Some of our witnesses pointed out the need for a gymnasium. We recognise that some place must be provided where indoor physical recreational therapy can be applied, and, as exercise of the type used for



patients does not demand the elaborate and unhandy equipment of the old type of gymnasium, it is thought that the refreshment room would serve also as a centre for physical training and for many other indoor group activities.

### *Visiting Rooms.*

184. It is a common practice for friends to visit patients in the villas of the Hospital. We recognise, however, that it is not always possible to carry out this arrangement, and it is therefore necessary to have a visiting room for each side of the Hospital large enough to accommodate a proportion of the patients with their friends on visiting days. The frequency of visiting and the administrative arrangements in Mental Hospitals vary so much that we are unable to lay down the standard of size which would apply to all of them. We feel, however, that the natural desire to visit in private should, so far as practicable, be granted. Accordingly, we suggest that visiting rooms should not be unduly large, and that they should be so designed as to facilitate the separation of patients and visitors into small groups.

### *Occupation Rooms and Workshops and Workrooms.*

185. The value of occupation as a form of treatment in mental disorder has been in recent years more fully recognised, and rapid developments are taking place in Mental Hospitals to provide such treatment both in the ward units and in the special rooms set apart for this purpose. The Board of Control, in their Memorandum on Occupational Therapy for Mental Patients (1933) suggest that in a Mental Hospital of 1,000 beds an area of 6,000 superficial feet of floor space would be required. This accommodation could be provided in the form of huts, each of 20 by 60 feet, grouped as most convenient to make two or more occupation centres. The arrangements for the occupational treatment of patients in the ward units may involve some sub-division of the rooms, but do not necessitate any increase of day space, excepting only in the Admission Hospital where the sitting rooms are very small. A single occupation centre might be established here for men and women, which could also be used for social purposes.

186. The floor space proposed for occupational treatment is additional to that of the ordinary utility shops on both the male and female sides of the Hospital. The sewing room and shops for tailoring, bootmaking, carpentry, upholstery and mattress making are used also for the treatment of patients, but their value for this purpose is of necessity limited by the need for maintaining output.

Opinion generally is strongly in favour of the use of occupational therapy in mental disorders, and we feel that the cost of this special provision is fully justified.

*Boiler House and Maintenance Workshops.*

187. Section XI of our First Report dealt with the engineering services of a Hospital, and our recommendations made in that Section apply generally to Mental Hospitals, subject to the following observations:—

*Heating.* We understand that in Mental Hospitals it is desirable to provide panels in all single bedrooms for patients, and that guards are required to all radiators working with a surface temperature of over 140° F. in rooms which may be occupied by patients. They would not be required if a low temperature panel system were adopted, and the difference in the cost between a radiator system and a panel system would be lessened by the cost of providing guards.

*Fire Protection.* In the case of a Mental Hospital situated at some considerable distance from a town it is more than ordinarily necessary to provide adequate means of protection from fire, and unless a nearby stream or pond is available adequate water storage should be provided to deal with a serious outbreak. This may be in the form of an underground tank supplied with rain water collected from the roofs.

*Maintenance Workshops.* Provision should be made near the boiler house for the offices and shops required for the maintenance of the buildings of the Hospital.

*Church.*

188. Our witnesses all agree as to the need for a church. We also adopt that view, but would suggest that the church be of simple design and that the seating accommodation should be only for the numbers likely to use it.

*Mortuary Block.*

189. We dealt with the Mortuary Block in Section IX of our Report on the Acute General Hospital. In Mental Hospitals the amount of accommodation required is less, and for a Hospital of 1,000 beds mortuary provision for three or four bodies should suffice.

*Canteen.*

190. In a new Mental Hospital we think it would be desirable to provide a canteen comprising a shop and a room where light refreshments can be served to visitors who come from a distance and to privileged patients. The hospital library may also be situated here if the administrative arrangements make this possible.

*Ward Gardens and Playing Fields.*

191. Separate gardens for each group of patients should be provided. This is a simple matter if the Hospital is designed as a series of detached villas.

Playing fields should be arranged so that access is easy from both the male and female sides. Outdoor recreation is an important part of the physical treatment of patients, and we suggest that an area of not less than 12 acres of ground be allocated for this purpose. There should be a cricket field with more than one pitch, several football and hockey pitches and space available for games such as netball, tennis and bowls. A simple type of pavilion should be provided, with facilities for changing and sanitary accommodation.

In addition, adequate space should be set apart for the provision of outdoor recreational facilities for both male and female staff.

#### METHODS OF CONSTRUCTION, MATERIALS AND FINISHINGS GENERALLY.

192. The recommendations made in Section X of our First Report as to the methods of construction, materials and finishings of an Acute General Hospital may be applied generally to a Mental Hospital, subject to the following qualifications:—

##### *Wall Finishings.*

(a) Dayrooms—Plaster, painted, with a wood chair rail, the part below the chair rail being of hard plaster.

(b) Dormitories—Plaster, painted, with a dado of hard plaster and floor fillets of hardwood.

(c) Single-bed rooms—Cement or hard plaster to the full height of the room.

##### *Floor Finishings.*

(d) Dayrooms and single-bed rooms throughout the Mental Hospital, and wards and dormitories in buildings such as the Admission Hospital and the Sick Hospital—Hardwood in blocks or boards.

(e) Dormitories other than those mentioned above—Red deal in blocks or tongued and grooved boards in batten widths.

(f) In all the above patients' rooms, in upper floors or other situations in which there is a suspended floor of concrete or hollow tile, thick linoleum or similar covering laid direct on cement screeding is a satisfactory alternative to wood.

193. We have not thought it necessary to deal fully with such details of construction as doors, windows, etc., which may be special to the requirements of Mental Hospitals as they are fully described in the Suggestions and Instructions issued by the Board of Control, to which details we see no reason to take exception.



## VII.—MENTAL DEFICIENCY COLONIES.

### INTRODUCTORY.

194. The Report of the Departmental Committee on Colonies for Mental Defectives, 1931 (known as the Hedley Report) dealt with problems relating to the size, arrangement and essential structural requirements of Colonies for Mental Defectives. At the time the Hedley Committee was set up the number of beds which had been provided in Certified Institutions since the passing of the Mental Deficiency Act, 1913, was much below expectation, but the mark-time period during and following the War accounted in great measure for the delay in making provision for defectives under an Act which had come into force as long ago as 1913.

195. The Report of the Hedley Committee has proved to be of great value to Local Authorities in formulating schemes of construction, and the detailed suggestions and standards were widely adopted. During the six years since the publication of the Report there has been time to test the value of the standards in the light of experience in the use of buildings erected both before and after the issue of the Report. The standards have been generally accepted, and although we find that there have been changes in practice resulting from experience or from an increase in medical knowledge, we think it is unnecessary, apart from the standard of space between bed centres and the provision of facilities for indoor physical training, to do more than to express approval of practices which have already been adopted by many Local Authorities. For example, we report favourably on their recent adoption of schemes to improve and concentrate the sanitary arrangements in patients' villas. We also make suggestions relating to the area of land required for a Colony, based not on any theoretical consideration, but on the experience of architects and administrators who have been concerned with the planning and running of Colonies.

In view of our general agreement with the Report of the Hedley Committee, we have not set out our own views in the form of a complete Report on Colonies. We have made comments on the Hedley Report and suggested amendments to it, following its order and making our proposals under the appropriate headings.

*The paragraph numbers under the headings refer to paragraphs in the Hedley Report.*

### MINIMUM SIZE OF A COMPLETE COLONY.

(Paragraph 22.)

196. We were impressed by the evidence given to us on the need for the proper classification of defectives, and we would like to emphasise our agreement with the suggestions contained

in the Hedley Report that a Colony of not less than 880 beds represents the practical minimum size which would permit adequate classification in a complete Colony of all grades of defectives. The needs of many Local Authorities are less than the desirable minimum, and in order to secure the advantages to organisation and efficiency, and the economy resulting from a grouping of adequate size, a number of Joint Boards have already been formed. We recognise that there are certain difficulties resulting from the control of a Colony by a Joint Committee, but the advantages are so great as to lead us to hope that where necessary Authorities will combine to establish Colonies of not less than the minimum size recommended.

### THE ESSENTIAL REQUIREMENTS OF A COLONY.

(Paragraph 35.)

197. *Indoor Physical Training.* The recreation hall serves as a church as well as a place where combined activities and entertainments take place. In a Colony of 900 to 1,000 beds the recreation hall is so fully used that it cannot serve also for physical drill, meetings of scouts and guides and for many other activities which are a necessary part of the training of defectives. We are of opinion that in every large Colony, even where there is a school assembly hall, there should be in addition to the recreation hall a simple structure in which patients may undergo physical training. If this is situated adjacent to the recreation hall it may be used also as a refreshment room for patients during entertainments and dances.

198. *Tuck Shop (Canteen).* This was referred to in the Hedley Report, and is a place where patients may do their shopping with their own money. We would suggest that a small room be attached to the canteen where visitors, a large number of whom come from some distance, may be served with light refreshments.

### HOSTELS.

(Paragraph 44.)

199. A number of Local Authorities have established hostels for high grade working boys and girls who have already undergone a course of training in the Colony. This experiment has proved so successful that we have no doubt that every Colony should have a hostel in which to complete the training of those patients who are likely to go out and become partially or wholly self-supporting. The hostel is also a home to which patients on licence may return, on their free days, for companionship, encouragement and assistance.

The premises may be on the institution estate or some distance from it. It is usually possible to rent a house for the purpose, but in any event the building should be domestic rather than

institutional in type. It is important that hostels should be small, with probably not more than 20 to 30 beds in each. At least one for each sex would be needed for an established Institution of 1,000 beds.

Hostels should, if practicable, be administered from the Colony.

#### ARRANGEMENT OF THE VARIOUS UNITS.

##### *Standards of Space for Patients.*

(Paragraph 49.)

200. The standard of space for patients in ward units recommended by the Hedley Committee was 30 superficial feet by day and 40 superficial feet by night. Both the day and the night space are less by 10 superficial feet per patient than that hitherto suggested by the Board of Control for Mental Hospitals. If these standards are to be based merely on grounds of air-space and ventilation, there would not need to be any difference, and we have thought it necessary to examine the question anew.

201. The population of a Colony contains by comparison with a Mental Hospital a larger proportion of young people and children. Young people live together more happily than older men and women who may have been for many years accustomed to the privacy of their own homes; defectives who come to Institutions before the end of adolescence commonly find the communal life in a Colony villa very much to their liking. People of defective intelligence are also much happier with others of their kind than with people of normal intelligence; unfortunately, a patient suffering from mental illness is generally more content to associate with normal people and finds it difficult to put up with the peculiarities of others who are similarly afflicted. Close quarters for him mean irritation and real hardship. There is the further difference that defectives as a class, partly because the average age is lower and partly because their mental preoccupations are not abnormal in character, are more active and more socially inclined than those who suffer from acquired mental illness. Defectives play games more readily, spend more time out-of-doors and, on the whole, a great part of the day in workshops and training centres outside the villas in which they live. For these reasons, we consider that less floor space in dayrooms is required in Mental Deficiency Colonies than in Mental Hospitals, and we agree that for defectives the standard of day space of 30 superficial feet per patient is a good one. In the Sick Hospital, however, we suggest that it is only necessary to provide day space for one-third of the patients under treatment.

202. Such differences do not to the same extent apply to the patients' bedrooms. Floor space in a dormitory should be determined by the distance between beds necessary to ensure a



reasonably low risk of infection from bed to bed, and to provide room enough for dressing and undressing, and for the nursing activities of the staff. The present standard of 40 superficial feet per patient in Colonies appears to be too low; on this point our witnesses have been in entire agreement. Dormitories are usually 18 feet wide, so that the distance between bed centres is 4 feet 5 inches. On any present-day hygienic standards the beds are too close together, and the position is made worse by a number of other limiting conditions. The space of 40 superficial feet per patient has to cover free entry to and exit from the dormitory and floor space for a night nurse. The exigencies of planning also sometimes prevent the fullest use of the space available. These encroachments have resulted in beds being placed so close together that difficulty is experienced in giving patients nursing attention at night, and, instead of using the space between the beds, patients are compelled to dress and undress in the gangway, to the annoyance of those who require free passage. Some Medical Officers have attempted to solve the problem by using narrow beds; we saw a dormitory in which the beds were only 2 feet 3 inches in width. While this has provided a partial solution, it is not one which we would accept. In order to provide accommodation in a dormitory for the activities of patients and staff and for some degree of safety from infection, it is our view that a standard of 5 feet between bed centres and a minimum floor space of 45 superficial feet per patient is necessary. Accordingly, we propose that this standard be adopted and applied in all ward units of the Colony with the exception of the Sick Hospital. In the Sick Hospital the wards should be 20 feet wide and the distance between bed centres should be 7 feet. There should, in addition, be facilities for nursing patients on verandahs.

#### *Number of Floors in Villas.*

(Paragraphs 50 and 51.)

203. The Hedley Committee, dealing with the question whether villas should have one or two floors, stated that "the general consensus of opinion is in favour of two-storied villas, and on the whole we agree that they are better. Where, in the case of some particular site, it can be shown that bungalow construction is appreciably cheaper we do not, however, consider the advantages of two-floor villas important enough to outweigh the economic factor." In referring, in paragraph 75, to villas for low-grade cases the Committee expressed the view that "it is the common practice—and indeed the only practicable one—to place them in single-storey buildings, to facilitate wheeling the cases out-of-doors during the daytime."

204. With these views we are in general agreement, but we would urge the advantages of single-storey buildings also for

active children and adults whose habits are defective and who require frequent nursing attention. For such cases special sanitary arrangements (sluice rooms) are required, and if the villas are on two floors, it would be necessary to duplicate this relatively expensive sanitary provision. There is the added advantage that concentration of washing and other sanitary arrangements presents no difficulty in a building of one storey.

*Bedrooms—Rows of Beds.*

(Paragraphs 53 and 54.)

205. It may be that some slight saving in cost is entailed in the decision of the Hedley Committee to recommend a plan of a villa showing dormitories with three rows of beds. We have discussed this question with our witnesses, and they were unanimous that in practice there is a difficulty in securing efficient ventilation in dormitories where beds are in three rows. With even 5 feet between bed centres the beds are not usually clear of the windows, with the result that patients are reluctant to keep the windows open at night. Thus adequate ventilation with only two rows of beds is not easy, and with three rows the problem becomes still more difficult. The alternative appears to be a system of forced ventilation, but this we are told would add considerably to the cost. We are opposed to the erection of wider buildings with three rows of beds in the dormitories.

*Footbaths.*

(Paragraph 55.)

206. The Hedley Committee, following their recommendations with regard to the provision of baths said: "We considered the question of footbaths, but do not think these are necessary". More recent experience has shown that in a number of Institutions footbaths meet a special need in villas for working patients. As most of the active defectives are occupied, and as in any event they cannot be classified entirely according to occupation, it is desirable to have a footbath as part of the equipment of the combined cloakroom and lavatory in each villa where there are active male patients who do heavy work or are employed out of doors and in the villa for female gardeners and land workers.

*Lavatory Basins.*

(Paragraph 56.)

207. We agree with the recommendation of the Hedley Committee that in villas the washing arrangements should be concentrated on the ground floor, but we mention this matter mainly to point out the advantages of concentration. It is inconvenient to have all the basins on the upper floor because patients

usually live on the ground floor during the day and the dormitory doors are locked as soon as the rooms are arranged and cleaned. Access to the conveniences would, therefore, not be easy.

The provision of a single washing place on the ground floor for day use facilitates the concentration in and around one room of many services comprising the lavatory, cloakroom, bootroom, W.Cs., drying cupboard, storage for patients' towels, mugs, hair brushes and toothbrushes, and such minor equipment as a footbath, a drinking fountain and mirrors. Thus, not only do the patients have ready access to the full washing facilities throughout the day, but the grouping of conveniences makes it easier for the nursing staff to train the patients in personal hygiene. The convenience to active patients in the dormitories on the first floor is not in our view affected if the washbasins are in a room close to one of the stairways giving access to the dormitories. If, however, it is considered necessary to have washing arrangements on both floors the full number of basins (e.g., one basin to six patients) should be provided on each floor; as, failing this, there must always be overcrowding and lack of privacy. Where the washing arrangements are concentrated on the ground floor, the only basins needed on the upper floor will be such as are necessary in conjunction with W.Cs. for night use and in the dormitories for nurses on duty.

#### *Water Closets.*

(Paragraph 57.)

208. The standard at present recommended by the Board of Control is one water closet to eight patients by day, and one to thirty patients by night. The evidence given to us indicates that the standard is a good one, and accordingly we agree with the recommendation.

Conveniences for day use should if possible be adjacent to the cloakroom and lavatory, and should therefore be placed on the ground floor. In planning a villa care should be taken to provide that patients should have unrestricted access to a water closet during the night.

#### *Storage Accommodation.*

(Paragraph 65.)

209. The space required for the storage of clothing and reserve equipment of the ward unit was standardised on the basis of 3 square feet per patient, but presumably it included also the space for the storage of medicines and dressings and for any office furniture required for the use of the doctor and the sister in charge. Thus the space available for storing clothing and



ward equipment was quite small. The introduction of improved methods in the care of patients' clothes has resulted in a demand for more space, and it is evident that the present standard is too low.

We consider that the office and storeroom space in a villa for 60 patients should have an area of not less than 280 square feet. The requirements of patients and staff are well met by three small rooms distributed on the ground and upper floors according to the working method to be adopted by the nursing staff.

### *Sluice Rooms.*

(Paragraph 66.)

210. A slop sink or sink room is given by the Hedley Committee as part of the essential equipment of a villa. We have found that in certain villas some equipment is required in addition to the hopper sink usually provided in a sink room.

In villas where there are patients whose personal habits are defective or where patients are nursed in bed, a sluice room is required in place of the sink room. It should be large enough to contain a combined hospital bed-pan and scalding sink fitted with a mackintosh slab, shelving for sanitary utensils, a mackintosh drying rack, a bath and a large ventilated cupboard for storing the buckets and cleaning materials used in the sanitary annexe. The equipment could be fitted into a room of about 15 feet by 11 feet. In villas where bed patients are nursed, the sluice room should have an entrance direct from the dormitory. Such a room would be needed in one of the ordinary villas for children and for adults of each sex, in the special villa for helpless patients of the lowest mental grade, and in the sick hospital.

### RESIDENTIAL ACCOMMODATION FOR STAFF.

(Paragraphs 91 and 92 and Appendix A.)

211. While we are in general agreement with the observations of the Hedley Committee, we feel that, as the result of more recent experience and of the changing conditions, particularly as to the hours of duty, the table in Appendix A to their Report, setting out the approximate numbers of residential staff in Colonies, may now be somewhat misleading. The following revised schedule is still approximate only, and is intended merely as a general guide to the numbers of the nursing and domestic staff for whom residential accommodation may have to be provided in a Colony of medium size, say for 1,250 beds. It is based on a duty period, excluding meal times, of 48 hours per week.

Matron	...	...	...	I	
Assistant Matrons	...	...	...	2	
Sister Tutor	...	...	...	I	
Home Sister	...	...	...		
Night Sister	...	...	...	I	
Female Charge Nurses	...	...	...	}	on basis of 1 nurse to 6 patients.
Female Nurses*	...	...	...		
Male Head Nurse	...	...	...	I	
Male Assistant Head Nurse	...	...	...	I	
Male Night Head Nurse	...	...	...	I	
Male Charge Nurses	...	...	...	}	on basis of 1 nurse to 6 patients.
Male Nurses*	...	...	...		
Female Occupations Officer	...	...	...	I	
Male Occupations Officer	...	...	...	I	
Cook	...	...	...	I	
Assistant Cook	...	...	...	I	
Laundress	...	...	...	I	
Assistant Laundress	...	...	...	I	
Sempstress	...	...	...	I	
Domestic Staff and Maids	...	...	...	18	

#### AREA OF LAND REQUIRED.

(Paragraph 93.)

212. Many of our witnesses have told us that the size of the estate is one of the most important items for consideration when a Colony scheme is being worked out, and they were unanimously of opinion that the standard of one acre for every ten patients proposed by the Hedley Committee has proved to be too low. The various units of the Colony are separated so that each villa for patients shall be an individual home, rather than part of a closely packed group. The advantages of wide spacing are very great, but it increases cost. We consider that villas for active patients of the same sex need not be more than 60 feet apart. This will allow the gardens in front of the villas to be of good size and will permit adequate separation of the different classes of active patients.

213. The opportunities for training defectives are greatly increased when there are adequate playing grounds for each sex. For this purpose a total area of at least 12 acres of flat or levelled ground is required. The kitchen garden, the villa gardens and the grounds around the buildings form a perfect training ground for considerable numbers of patients who like the heavier type of work and who are fond of working in the open air, and restriction of area may result also in failure to supply the Colony with vegetables and roots for the kitchen and flowers for the wards.

\* Does not include teachers or technical officers in charge of occupation rooms.

214. In order to supply these and other facilities and to provide room for the buildings without approaching the borders of the estate we consider that for a Colony of 1,000 beds an estate of 150 acres would in ordinary circumstances be necessary. If farming is to be undertaken, additional land must be required.

#### METHODS OF CONSTRUCTION, MATERIALS AND FINISHINGS GENERALLY.

(Paragraph 99.)

215. The recommendations made in Section X of our First Report as to the methods of construction, materials and finishings of an Acute General Hospital, as applied in paragraph 192 above to a Mental Hospital, may be followed for a Colony for Mental Defectives, except that in regard to floor finishings, villas for the lowest grade cases where the patients are under treatment in bed or who may be of very degraded habits should be classed with the buildings included under (d) of that paragraph.



## VIII.—PUBLIC ASSISTANCE INSTITUTIONS.

### INTRODUCTORY.

216. Prior to the passing of the Local Government Act, 1929, the Poor Law was administered by Boards of Guardians who served comparatively small areas and many of whom maintained only one Institution. Consequently, it was usual to find one Institution housing able-bodied, healthy aged, and infirm men and women; cases of acute, chronic, and mental sickness, both men and women; maternity cases; and healthy and sick infants.

217. The Act of 1929 abolished the Boards of Guardians and transferred their Poor Law functions to the Councils of Counties and County Boroughs, and many Councils thus became possessed of a number of Institutions. This made it possible for Councils to classify the Institutions within their areas so as to secure that they were used and developed to better advantage. Hospitals which were wholly devoted to sick cases, and blocks for the treatment of acute and chronic sick cases in mixed Institutions, which were formerly administered under the Poor Law Acts have in a number of areas been appropriated for purposes of the Public Health Act, and are now administered by Public Health Committees. Of the Institutions remaining under the Poor Law Acts, comparatively little classification has yet been effected, although many Councils have adopted schemes to be carried out in the near future.

218. Of the institutional cases remaining to be dealt with as Public Assistance cases, other than children over three years of age and casual wayfarers, no uniform classification has received general acceptance. The following types have usually to be provided for:—

(a) the healthy aged (with whom certain types of deformed and crippled individuals are sometimes conveniently accommodated);

(b) the infirm, i.e., those who require assistance from the staff and have to spend occasional days in bed;

(c) the able-bodied, who may be defined as persons physically capable of work;

(d) expectant and nursing mothers; and

(e) healthy children under three years of age.

In addition to these categories, there are certain classes of mental patients for whom either temporary or permanent accommodation is frequently found under the Lunacy Acts in Public Assistance Institutions.

219. Recommendations as to the hospital accommodation necessary for cases of bodily or mental sickness and for maternity cases have been made in our First Report and in earlier Sections of this Report, and those recommendations apply where for any reason accommodation for such cases is provided in a Public Assistance Institution. In this Section we deal with certain considerations which should apply in the provision of accommodation in newly erected buildings for other types of Public Assistance cases. Some of that accommodation may, however, be provided in existing Institution buildings, suitably adapted. For instance, a Council may build a new hospital and adapt the buildings previously used as a hospital for the accommodation of the able-bodied or for the aged and infirm.

### **Accommodation for Old People.**

220. The majority of the aged people in this country who are able to look after themselves live in privately-owned houses or in houses erected by Local Authorities under the various Housing Acts, but there is no indication that the demand for accommodation for aged people under the Poor Law is decreasing.

221. The healthy aged and the infirm taken together form the largest group of people for whom accommodation has to be provided in Public Assistance Institutions. Many Authorities, in recent years, have been considering the most appropriate provision for old people, and there has been a growing tendency to provide more quiet and comfortable surroundings for them than was possible in mixed Institutions. A few examples are given of the various types of accommodation which have been provided. In the case of one County Borough, the old people have separate quarters somewhat similar to almshouses, where the mid-day meal is distributed from a central kitchen to the various quarters and stores are issued for other meals which are cooked by the residents themselves. In several other areas, existing mansions, large suburban houses, or disused poor law schools have been adapted for occupation by old people. In one instance, a new general Institution has been erected which is occupied, in the main, by old people, but which also provides emergency accommodation for a few able-bodied and some harmless mental cases.

Other Authorities have schemes in hand for the provision of Homes for the Aged and Infirm. In one County area where new buildings are to be erected, it is proposed to provide in different parts of the County groups of Cottage Homes for the healthy aged, together with a small block for the infirm in association with each group, the able-bodied class and such mental cases as can reasonably remain under the Poor Law

being accommodated separately in a central Institution. One County Borough Council is providing a series of connected homes with a central administrative block and dining hall.

222. In deciding what kind of accommodation should be provided for old people, a Local Authority will naturally consider whether there are available any Institution buildings suitable for adaptation; but where the existing Institutions are old and obsolete, it would be wasteful to attempt to recondition or adapt them in accordance with modern or any reasonable standards.

223. With regard to the erection of new buildings for the accommodation of aged people, as has been mentioned, Local Authorities are experimenting with different types of accommodation. Our recommendations which follow may be regarded as somewhat lacking in precision, but conditions in different parts of the country vary so considerably, and the experience of the experiments already embarked upon has been so limited, that we do not feel ourselves in a position to recommend the adoption of one type of accommodation to the exclusion of any other type. Something will, of necessity, depend upon the numbers to be accommodated and upon other local considerations.

There appears, however, to be general agreement that groups of small Cottage Homes are suitable for the less industrial areas, while larger groups of similar Cottage Homes or a single large Home may be considered more appropriate for old people who have been accustomed to living under urban conditions. In the following paragraphs we describe in outline groups of small Homes and larger Homes which may meet the needs of different Authorities.

#### SMALL HOMES FOR THE HEALTHY AGED.

224. In County areas the healthy old people may be housed in groups of Cottage Homes, each Home accommodating about 20 people. Such groups should be built near convenient centres in different parts of the County. Groups of similar Homes are also suitable for accommodating the old people in some County Boroughs. It would probably be found convenient to allocate separate Homes in a group to men and women. Wherever possible the accommodation should be on the ground floor, with quarters for staff on the first floor. There should be adequate dayrooms, some single-bed rooms and others with three or four beds. Opinions differ as to whether each Home should have its own dining room and kitchen, or whether a communal dining room and kitchen should serve the group. Should it be desired, however, that each Home should have its own dining room, a central kitchen might serve a group of Homes. To some extent, the decision on this question will depend on the size of the site and the number of Homes in the group.



225. Single-bed rooms should have an area of about 85 square feet, and the other dormitories should allow a minimum floor area of 60 square feet per person. Dayroom accommodation should be on the basis of 40 square feet per person if the dayrooms are also to be used as dining rooms, but where separate dining room provision is made, a dayroom allowance of 25 square feet per person should be sufficient. For each Home for about 20 people there should be 1 bath, 4 ablution basins, and 3 W.C.s., with a urinal for men.

226. Where no separate block for the infirm is provided as part of a group of Homes for Old People (see paragraph 231 below), there should be a few beds reserved in one or more of the Homes for cases of minor illness not sufficiently serious to warrant removal to another Institution.

#### LARGE HOMES FOR THE HEALTHY AGED.

227. For accommodating healthy old people drawn from urban and industrial communities, Authorities may wish to provide larger Homes, but the number of residents in a Home should not exceed that in which the average Superintendent and Matron can take an individual interest. Large Homes should not be of more than two storeys, unless there is exceptional difficulty regarding a site, and the installation of a passenger lift should generally be unnecessary except where there are more than two storeys.

228. There should be a central dining hall which could be utilised for religious services and for entertainments, and the other accommodation might be conveniently grouped around this central hall and the kitchen, so that the residents can have easy access from dormitories and dayrooms to the hall. There should be a series of dayrooms of a moderate size, including at least one for quiet and with no wireless. There should be some single-bed rooms, and no dormitories should contain more than 12 beds. Where Homes for Old People have been established in adapted buildings, the main criticism has been directed against the size of the dormitories and dayrooms and the general absence of privacy. The division of some dormitories into cubicles by means of wooden partitions (which should not interfere with lighting and ventilation) might be considered, particularly for women.

229. Dormitories should be planned so as to give 6 feet between bed centres and a minimum floor space of 60 square feet per person. Single-bed rooms should have an area of about 85 square feet. Dayroom accommodation should be on the basis of 25 square feet per person, in addition to the space in the central dining hall. The height of the dormitories and the dayrooms need not exceed 10 feet. There should be

sufficient storerooms, distributed for convenience; stores for foodstuffs near the kitchen; a sewing room; baths (1 to every 30); waterclosets (1 to every 8, with urinals for men); ablution basins on each floor (1 to every 6); sink rooms on each floor; small duty rooms; cloakrooms; bootrooms; a doctor's room with small preparation and undressing room adjoining, and separate lavatory accommodation; a cleaners' room; and staff quarters.

230. If the Superintendent and Matron have quarters in the main building, these should be self-contained.

#### BLOCKS FOR THE INFIRM.

231. The infirm may be described as those who, though not able-bodied, are normally able to be up all day and not in need of skilled nursing, though they may need some simple assistance from attendants.

Unless there is suitable accommodation readily available, an Authority may desire to place a block for infirm people on the same site as a group of Homes for healthy old people, but in the case of most large Homes it will probably be found more convenient to have suitable arrangements for removing cases other than those of minor illness to another Institution.

232. An infirm block should contain a few single-bed rooms and units consisting of small wards with sanitary and ablution accommodation conveniently near, and on the same level. The accommodation for the infirm should all be on the ground floor, and there should be easy access to the open air. Space should be allowed in the wards for tables for serving meals; or, where the numbers justify it, separate dayrooms for men and women, which would also be used for meals, may be provided on the basis of 40 square feet per person for about three-quarters of the number of beds. Single-bed rooms should have an area of about 85 square feet, and the other dormitories should allow a minimum floor area of 60 square feet, apart from any space required for serving meals. Sanitary and ablution accommodation should be on the same basis as for Old People's Homes.

233. Accommodation for the infirm in a general Institution may be provided on lines similar to the above. If large numbers have to be accommodated, the main dormitories may reasonably contain from 20 to 30 beds, with 6 feet between bed centres and a minimum floor area of 60 square feet per person.

#### GENERAL.

234. Old People's Homes should be designed on homely and simple lines, and every endeavour should be made to avoid an "institutional" atmosphere. Many of the residents will remain there for the rest of their lives, or at any rate until they become bedridden. Space should be allowed for nests of lockers in the

dayrooms, and for lockers or chests of drawers in the wards for infirm cases. Dayrooms should be furnished with a sufficiency of armchairs and small tables. All dormitories, single-bed rooms and dayrooms require to be heated, and the dayrooms should generally have open fires. The grounds surrounding the Home should include space for recreation and gardening.

235. As admissions will not as a rule be made direct to an Old People's Home, but by transfer from another Institution, there will be no need for a receiving ward.

236. Some provision for married couples to live together may have to be made either in Old People's Homes or in other Institutions, but this need only be on a limited scale as it is found that few married couples take advantage of the provision of the Poor Law enabling them in certain circumstances to live together in an Institution.

237. It has been represented to us that crippled and deformed persons, as well as blind and deaf and dumb persons, though not aged, settled down contentedly among the older residents in an Old People's Home.

#### **Accommodation for the Able-Bodied and Miscellaneous Classes.**

238. The number of able-bodied men and women in Public Assistance Institutions is practically negligible, except in Institutions serving large towns or industrial districts. In rural Counties, Authorities may frequently be able to accommodate the able-bodied men and women in one of their existing Institutions, and to use that Institution as a clearing house for certain miscellaneous classes such as families which have to be admitted for short periods owing to misfortune, evictions, and other unforeseen causes. Where there is no such Institution available, the Authority may need to acquire or build a Receiving Home, well supplied with bathing and cleansing facilities. If such an establishment were situated near an Old People's Home it might be managed by the Superintendent of that Home, but he would require separate staff for this purpose, some of whom would need to be resident.

239. Where there are large numbers of able-bodied, ampler provision is necessary. For men, land or workshops should be provided to enable them to be trained with a view to restoration to wage-earning employment. For women in this class who are middle-aged, some Authorities have established hostels where the women can receive training which will help them to obtain suitable employment on discharge. In rural areas these women can possibly be best employed in assisting in the ordinary domestic work of a group of Homes or in an Institution laundry.



240. Dormitories for the able-bodied should be planned to allow 45 to 50 square feet per person and 5 feet between bed centres, and except in large Institutions should not contain more than 20 beds. There should be a central dining hall, and for other dayroom accommodation, 25 square feet per inmate should suffice. Sanitary and ablution facilities should be on the same basis as for Old People's Homes, and should be mainly centralised on the ground floor, except for accommodation near dormitories for use during the night.

241. Where facilities are not conveniently available in any Public Health or Mental Hospital it may be necessary to make arrangements in a Public Assistance Institution for the reception for observation of persons who are alleged to be of unsound mind, but patients requiring mental treatment should be transferred at the earliest possible moment to the appropriate Hospital.

Accommodation has to be provided for such mental cases as remain in Public Assistance Institutions under the Lunacy Act, 1890. They should, however, be accommodated separately from all other inmates in the Institution.

The standards of day and night space for mental cases should correspond to those recommended for similar types in Section VI of this Report.

### **Children's Homes.**

242. Healthy children over the age of three years may not be retained in a general Poor Law Institution for a period exceeding six weeks. Certain classes of children may be boarded out, but Public Assistance Authorities generally find that they have need to establish Children's Homes for those classes of children who cannot be boarded out and for other children whom they do not wish to board out or for whom suitable foster parents cannot be found. Further, some Authorities prefer to remove children from an Institution before they attain the age of three years, and to transfer them to a Children's Home suitably staffed for the care of "toddlers".

243. In the past, institutional accommodation for children was provided by means of (a) large homes with schools attached, (b) grouped cottage homes, i.e., a number of cottages grouped in a self-contained community (sometimes including a school), and (c) small scattered homes, i.e., cottages situated in different parts of a Local Authority's area.

It is undesirable that any further Homes of the "barrack schools" type should be built, or that children should be educated in schools set aside for the use of any group of Homes, the general tendency being to educate the children with the children of the district in the local schools.

244. Cottages forming Grouped Cottage Homes may be detached or semi-detached, and the number of cottages in a group

should be limited. There should be adequate land for recreation and some garden. For these purposes, a site allowing about a quarter of an acre for each cottage would probably be sufficient. In selecting sites regard should be had to the availability of school accommodation in the neighbourhood.

245. The cottages should be designed to accommodate 10 to 14 children each, and should be simply and economically arranged. In construction and finish they should be of the standard adopted for well-built Council houses. On the ground floor there should be a kitchen and a combined dining and day-room, or alternatively a kitchen-dining room and a separate dayroom. In the latter case a scullery is needed. The larder, store, cloakroom, lavatory basins and W.Cs. should also be on the ground floor. The children's bathroom may be on the ground floor or the first floor, but supervision may be made easier for the busy fostermother by the former position. The dormitories should be on the first floor, and should allow a minimum floor area of 40 square feet per child and 5 feet between bed centres. Dormitories should contain not more than six, or at the outside eight, beds each, and where there are more than six beds in a dormitory, provision should be made for cross ventilation. There should be a single-bed room for the isolation of a sick child, a W.C. for night use, and adequate cupboard provision for clothing, boots, etc. Where the cottages are semi-detached, inter-communicating doors on the first floor are desirable to facilitate escape in case of fire.

246. Accommodation should be provided in each cottage for the fostermother, and where the number of children exceeds 10, it is desirable that provision should be made for a resident assistant to the fostermother. For a large group of cottages a Superintendent's house should be provided. Unless a receiving home for children is otherwise available a cottage should be set aside for the purpose.

247. Comparatively small scattered homes are sometimes provided, either because the number of children to be accommodated is small or because existing houses can be acquired and adapted at a low price. It is difficult to make an adapted house wholly satisfactory for the purpose, but occasionally a house can be purchased and made reasonably suitable at a lower cost than that of a new building. Where it is necessary to build a single Home, it should be built on cottage lines such as are referred to above.

### **Nurseries.**

248. Nurseries for children under three years of age may be provided on the same site as a Public Assistance Institution, or in association with a group of Children's Homes, or on a separate site.

249. There are objections to housing large numbers of infants in one building owing to the risk of the spread of infection. Where large numbers of infants have to be accommodated, a number of blocks, each containing not more than 50 cots, should be provided, each block being self-contained and having its own outdoor playground. Nurseries should be planned so far as possible on open air lines and so as to obtain the maximum of sunshine.

250. Nurseries should contain separate dayroom and night accommodation. The dayroom accommodation should be not less than 30 square feet per infant, and there should be easy access to the open air. Dormitories should normally not contain more than six cots, with eight as a maximum. The space per cot should be 50 square feet. Separation accommodation should be provided, and where there are likely to be frequent admissions there should be a number of single-bed rooms for infants requiring a period of observation before admission to the general accommodation, but the number of such single-bed rooms can be reduced where there is a reception or probationary block administered in connection with the Nursery.

251. Sanitary accommodation and washing facilities should be in close proximity to both dayrooms and night nurseries, and the water closets provided should be suitable for toddlers. Where there are a number of young infants a milk kitchen is essential, and provision should be made for any nursing mothers in a building near the Nursery.

Nurseries should be centrally heated, and there should be open fires in the dayrooms.

### **Casual Wards.**

252. The Departmental Committee on the Relief of the Casual Poor, appointed by the Minister of Health in September, 1929, reported\* in 1930 as to the accommodation which should be provided for destitute wayfarers. Their Report should be consulted regarding general principles for dealing with this class of destitute persons. It described the provision in the past of casual wards as part of general Poor Law Institutions, but noted the advantages of providing such wards entirely separate from any other Institution, and recommended this separation, although more expensive in some respects.

253. We do not consider that Local Authorities should be required to provide accommodation on the basis of the exceptionally large numbers of casuals which are admitted at certain times of the year, and we recommend that the permanent accommodation provided should be related to the average number of

---

\* Report of the Departmental Committee on the Relief of the Casual Poor. [Cmd. 3640.].



casuals relieved each night during the year. Periods of special pressure should be met by using dayrooms as dormitories or, where the ward is attached to a general Institution, by bringing into service vacant accommodation in the Institution which can be set apart for that purpose.

254. The accommodation for women and children must be self-contained and separate from the accommodation for men. The number of women and children relieved at most casual wards is normally very small, and where a ward is attached to a general Institution, it may save capital expenditure if women and children are accommodated in the Institution.

#### SITE AND GENERAL LAY-OUT.

255. The site for a casual ward should be accessible from a main road and should be large enough to provide some land for potato growing or other cultivation on which casuals can be put to work. When a casual ward is attached to a general Institution, it should be approached by a separate entrance.

256. A casual ward should be designed to deal with its special problem of a constantly changing population. Wayfarers are admitted in the evening, and they have to be searched, bathed, fed and provided with sleeping accommodation. If their clothes are wet these have to be dried, and if dirty or verminous, cleansed. It is therefore necessary so to plan the various parts of a ward as to provide a convenient sequence of the operations following admission up to the time of discharge (which is normally on the morning of the second day after admission), to ensure cleanliness in the ward, and to facilitate supervision.

257. It is claimed that in large wards there are administrative and disciplinary advantages in keeping men admitted on any one evening entirely apart from those admitted on the previous evening. This arrangement necessitates the sub-division of the dayroom accommodation, and, though desirable, is not essential where only small numbers are concerned.

#### ACCOMMODATION.

258. A casual ward should contain—

(i) *Reception room* where casuals are registered and searched.

(ii) *Store for casuals' bundles* and personal belongings. This should be accessible from the reception room, but preferably separate from it as bundles are apt to be bulky and noisome.

(iii) *Bathroom*, well lighted and ventilated, with hot water supply sufficient to provide fresh hot water for bathing each casual. One bath for every 20 to 30 beds provided is

required. A separate room should be provided in which casuals can undress, or sufficient space allowed for this in the bathroom. For the more ready detection of skin or other diseases the baths should not be wholly enclosed, though a small screen between each bath is desirable. Shower-baths are generally found economical and serviceable, but at least one slipper bath is needed for elderly men and others for whom shower-baths are unsuitable.

(iv) *Towel and nightshirt store*, accessible from the bathroom.

(v) *Store for casuals' own clothing*, between the bathroom and dormitories.

(vi) *Dayroom* to serve as meal and common room. An area of 8 square feet for every bed provided is the minimum requirement. The room should be well lighted and ventilated and fitted with tables and benches, some of which should be readily movable, so as to permit of the use of the room as additional sleeping accommodation in times of pressure.

(vii) *Kitchen*, in which food can be prepared and crockery washed, or, if the ward is attached to an Institution, a *service room*.

(viii) *Food store or larder*.

(ix) *Store for blankets and bedding*, accessible from dormitories and cubicles.

(x) *Sleeping accommodation*.—Some single-bed cubicles (about 50 square feet each) should be provided, and the remainder of the accommodation should be in dormitories, each containing 30 beds as a maximum. Between the centres of adjoining beds a minimum of 4 feet should be allowed, and dormitories with two rows of beds need not exceed 16 feet in width. Cross ventilation is essential, and emergency fire exits should be provided. Where provision is made for women casuals some cubicles should be large enough to take a cot as well as a bed.

(xi) *Lavatory and sanitary accommodation*.—There should be one lavatory basin for every eight beds, and one W.C. for every 10 beds; urinals should be provided for men. The sanitary accommodation should be well ventilated and, wherever possible, so arranged as to be accessible by day from the yard and by night from the dormitories and cubicles.

(xii) *Steam disinfecter*, unless there is one available in the Institution. This should be situated as far away as possible from dayrooms, dormitories and officers' living-rooms.

(xiii) *Drying room for wet day clothes*.—This may be provided in association with the boiler house if there is a separate one for the casual ward.

(xiv) *Exercise yard*, fenced or walled to prevent absconding, with a workshed in which wood sawing, chopping and bundling can be performed as tasks.

*Additional Accommodation in Larger Wards.*

259. In all but the smallest wards the following additional provision should be made:—

(a) Shelter or waiting-room, with sanitary annexe, for casualse who arrive before admission hours, and store for perambulators, etc.

(b) Small laundry, in which male casualse may be employed in washing towels, nightshirts, etc., as a task. Only simple machinery is needed. Casualse can wash their own clothes in this laundry after completion of their task, but where there is no such laundry, sinks should be provided for that purpose.

(c) A small room with tools for boot-repairing, which may suitably be provided as part of the workshop.

ADMINISTRATIVE PROVISION.

260. Supervision is of the greatest importance in a casual ward, both by day and night.

In separate casual wards, and in large wards attached to Institutions, as officers will be on duty throughout the day and night, there should be means of communication by bell from each dormitory and cubicle to the officer on duty. An office for the Superintendent and sanitary accommodation for the staff should be provided, unless in a casual ward attached to an Institution these can be arranged for more conveniently in the adjoining Institution.

In small casual wards attached to Institutions, separate staff rooms may not be necessary, but there should always be means of bell communication with an officer during the night.

In separate casual wards residential accommodation should be provided for the Superintendent. It is desirable that this should be separate from the wards, but on the same site. Sleeping accommodation may be necessary for some other members of the staff.

CONSTRUCTION AND FINISHINGS.

261. The most economical form of construction consistent with stability and cleanliness should be adopted for casual wards. Considerable parts of the wards, such as bathrooms, sanitary accommodation, and single cubicles, must be of permanent construction. Taking into account the higher cost of



upkeep of temporary structures, the risk from fire, the hard wear required, and the danger of infestation by vermin, we recommend that casual wards should be of permanent construction.

262. For dayrooms and dormitories a height of 10 feet need not be exceeded. For cubicles and other parts of the ward a height of 8 feet 6 inches is sufficient.

263. Boarded floors may be provided to dormitories, cubicles and dayrooms, but concrete floors with granolithic finish will suffice throughout the remainder of the ward, except in the officers' quarters. All staircases should be of fire-resisting materials. Standard windows of steel and steel door frames are an advantage, particularly because of the danger of infestation by vermin. Dormitory window sills should be 4 to 5 feet above floor level, unless opening on to an internal court.

The walls of bathrooms, up to a height of 4 feet 6 inches, should be finished so as to be easily washable. Other internal walls (apart from those of officers' quarters) should be of fair-faced brickwork which can be distempered or painted.

264. All dormitories, cubicles, and dayrooms should be heated. This can be by means of a low-pressure system with pipes placed on the walls above the window heads. Radiators are unnecessary. Slow combustion stoves are unsuitable and not free from danger. All rooms, including cubicles, need direct artificial light.

## IX.—BATHS AND WASH-HOUSES.

### INTRODUCTORY.

265. Baths and wash-houses are included in the list of public buildings enumerated in our terms of reference. They have, however, little in common with hospitals and the other institutions on which we were asked to report.

266. In the past, swimming baths have been provided under the Baths and Wash-houses Acts, 1846 to 1925. This series of Acts has now been replaced as regards London by Part VII of the Public Health (London) Act, 1936, and outside London by Part VIII of the Public Health Act, 1936. These Acts relate to both covered swimming baths and open air swimming pools, and the latter Act extends the power to Rural District Councils. Similar powers are conferred on County Councils by the Physical Training and Recreation Act, 1937, and under that Act considerable further development may be expected, particularly with regard to the use of swimming baths during the winter months either for swimming or for other forms of physical training and recreation.

267. The baths and wash-houses service is, in a sense, a health service, although it is not, or at all events it has not been, regarded as an essential health service in the sense in which the provision of hospitals is essential.

268. The Ministry of Health have not attempted to lay down standards or to issue general instructions with regard to the provision of baths and wash-houses. A Report was, however, issued by the Ministry in August, 1929, on the purification of the water of swimming baths, and that Report stressed the need for improved design in dressing accommodation so as to preclude the use of the bath surrounds by bathers before removing their boots or by spectators, more generous provision of shower and footbaths for the preliminary cleansing of bathers before entering the pool, and proper lighting and ventilation of the bath hall. These suggestions, if complied with, lead to an increase in the capital cost, but they tend to increase the revenue by making the bath more attractive.

269. The attractiveness of the modern swimming bath, designed to give an atmosphere and general appearance of brightness rather than the almost repellent conditions of the old-fashioned bath, has assisted in fostering a strong and increasing demand for further bathing and swimming facilities. Further, the general tendency in recent years, particularly among the younger generation, to lead a more open air life has focused attention on the need for increased facilities for open air swimming, and a considerable number of open air

swimming pools has been constructed in the last four years by Local Authorities, in addition to those provided by private enterprise.

270. While recognising this trend, and with the desire to encourage swimming and the health-giving exercise it entails, we have sought to evolve a standard which would not retard the growth of demand, and yet would definitely discourage extravagance in expenditure. Most of our recommendations relate to the provision of covered swimming baths and open air swimming pools, and we have little to say on the additional accommodation, such as slipper baths, special baths, and public wash-houses, which is sometimes provided in association with a swimming bath. The need for any such additional provision must depend on local conditions, and it is only possible to give some general remarks.

#### COVERED BATHS VERSUS OPEN AIR POOLS.

271. In arriving at a decision as to the form in which any swimming facilities are to be made available, a Local Authority has to consider whether a covered bath or an open air pool should be provided.

272. The cost of construction and maintenance of a covered bath is much greater than that of an open air pool of similar size. A covered bath can, however, be used for swimming throughout the year, whereas open air swimming can only be enjoyed by the majority of people when weather conditions are favourable. The use of an open air pool is thus limited to about five months in a normal year, and even during these months there are many days when open air swimming cannot be indulged in with enjoyment by the average person.

On the other hand, in warm weather the general atmosphere in a covered bath may be uninviting, whereas bathers would flock to an open air pool if one were available. Regular swimmers would, however, probably prefer the use of a covered bath where conditions would be less crowded, and there is no reason why a covered bath should not have sufficiently large opening windows to give pleasant atmospheric conditions in warm weather.

Furthermore, a covered bath is necessary for teaching swimming as a regular part of the education and physical development of children, so that instruction can be continued regularly and not be subject to interruption by the vagaries of the weather.

273. In many cases where a covered bath has been provided, the decision in its favour has been influenced by a desire on the part of the Local Authority to provide a building which can be used as a public hall.



274. When it is not intended to keep a bath open for swimming throughout the year, it is frequently urged that the bath hall should be so designed that it can be converted into a public hall during the winter months, and it is claimed that its use in this way may be the source of considerable additional revenue and admits of the employment throughout the winter months of part of the summer staff who would otherwise be dismissed at the end of the summer season.

275. There are, however, a number of objections to such a course. A building designed for a dual purpose is seldom satisfactory, as compromises have to be made in planning and equipment to suit varying requirements. A swimming bath hall should contain hard impervious surfaces wherever possible, whereas for a public hall for concerts, etc., questions of acoustics affect both the form of the building and the treatment of the surfaces. For the conversion of a swimming bath building into a public hall a wooden sprung floor removable in sections must be laid, supported over the pool area by steel or wooden trestles; and when this floor is not in use a considerable amount of space is necessary for the storage of the flooring and seating. Further, the needs of a public hall entail considerable extra cost in capital construction, particularly if a stage, with attendant dressing rooms, cinema projection room, foyer, cloak rooms, refreshment rooms, etc., are provided. Additional capital expenditure is also necessary in order to comply with the requirements of the Local Licensing Authority as to means of exit, sanitary accommodation, ventilation, etc. In one instance brought to our notice, the additional capital expenditure necessary to enable the bath building to be used also as a public hall was estimated at £10,000.

276. The need for increased facilities for winter swimming has been mentioned in several Annual Reports of the Ministry of Health, and in the Annual Report for 1935-36 [Cmd. 5287], the following passage occurs:—

“ In previous Annual Reports it has been suggested that Local Authorities should keep their covered swimming baths open during the winter months. In view of the present great interest in national physical education attention is again drawn to this suggestion. Increased facilities for winter swimming should be a very helpful factor in the improvement of the physique of the youth of the country. It is recognised that winter opening may in some instances entail some financial risk. Where the risk is serious it is suggested that the baths might be used for some purpose connected with physical exercises—in consultation with the Local Education Authority, if the Local Authority are not themselves the Local Education Authority. If covered baths are closed during the winter, their annual period of

usefulness would generally be no more than that of open air baths which can be provided at much less cost, and it may be said that the additional cost of the covered baths would be to a large extent wasted expenditure."

277. We are satisfied that the objections to the use of a bath building as a public hall outweigh any advantages, and we recommend that where a covered swimming bath is provided the bath hall should be designed as a one purpose building. Wherever possible, the swimming bath should be kept open for swimming throughout the year. Where, however, there are two swimming baths in one building the needs of winter swimming will usually be met by keeping one bath open, and consideration should be given to the use of the other bath for some purpose connected with physical training and recreation.

278. Another matter which influences the decision whether a covered bath or an open air pool should be provided is the extent to which it may be considered necessary to provide additional accommodation such as slipper baths, special baths, and public wash-houses. Additional accommodation in one or more of those forms is frequently provided in association with a covered bath, but only very rarely with an open air pool.

(a) *Slipper Baths*.—Owing to the improvement of housing conditions the need for slipper baths may be expected to decline. The provision of slipper baths in conjunction with a covered swimming bath complicates planning and increases the cost of construction and supervision, and though it is usual to include some provision of slipper baths the number to be provided in any scheme should be kept down to a minimum having regard to the requirements of the locality.

(b) *Special Baths*.—The somewhat elaborate nature of the construction and equipment necessary for special baths, such as Turkish, Russian, vapour, foam, etc., will add considerably to the cost of the scheme, and the revenue likely to be obtained from the relatively high charges which must be made for the use of such baths should be taken fully into account in determining whether the provision of any such baths is justified. From a financial point of view, they should only be provided as part of a scheme for a central bath in a large area where no similar facilities are already available within reasonable distance.

(c) *Public Wash-Houses*.—As in the case of slipper baths the need for public wash-houses is a declining one owing to the improvement of housing conditions and to the provision of washing facilities in connection with housing schemes. In some instances, wash-houses provided in

earlier schemes have been abandoned and the buildings converted to other uses. Wash-houses should be included in any new scheme only if there is an evident demand for such a service in the immediate neighbourhood.

279. It is obvious that although open air pools are more economical to provide than covered baths, both types have their advantages, and we are of opinion that it must rest with the Local Authority to decide which type is, in their opinion, better suited to meet the needs of the locality. If, however, it is the intention to provide a bath for swimming during the summer months only, it is not easy to justify the additional cost of a covered bath.

### **Covered Swimming Baths.**

#### **SELECTION OF SITE.**

280. For a swimming bath the site should be central or close to main omnibus and other traffic routes. If slipper or other baths and wash-houses are also to be provided, economy in first cost and in administration will usually be effected by building them on the same site as the swimming bath, but it must be borne in mind that the demand for slipper baths and wash-houses arises only in the poorer areas of a district, and the most convenient situation for those facilities may not provide the most suitable site for a swimming bath.

281. In any event, the site should not be too restricted, and in addition to the main frontage there should be access from a back or side road to facilitate the delivery of coal and stores and to provide for a separate entrance to the wash-house, if any.

#### **GENERAL LAY-OUT OF BUILDINGS.**

282. Compact and straightforward planning is essential to the smooth running of a bath establishment, and the avoidance of excessive supervision is attained by speedy and direct access by members of the public to each department.

As far as possible, all the bathing accommodation should be planned on one floor; but on a restricted site, or where more than one swimming bath is provided, it may be found desirable to plan the slipper baths on the first floor.

Provision should be made for the storage of cycles under cover.

The boiler house, which should be accessible from the rear or side street, may be placed below ground to facilitate the various circulating systems. The filtration and other engineering plant should preferably be near the boiler house.

If a wash-house is provided it should be as near as possible to the boiler house, and if possible at the rear or side of the site with a separate entrance.



Some residential accommodation may be necessary for a caretaker or engineer.

## THE SWIMMING POOL.

### *Number of Pools.*

283. In the past many baths have been built with two pools, in some instances intended for the separate use of men and women, and in others designated as "first class" and "second class". To-day, mixed bathing is more or less universal, and we see no advantage in providing separate pools for men and women. When desired, the use of the pool can be restricted at certain times to one sex. Neither do we see any advantage in providing "first class" and "second class" pools, one or other of which might be little used. There are, however, advantages in the provision of a second smaller pool, mainly for the use of children, and we refer to this matter again later.

### *Dimensions.*

284. The size of the swimming pool is a large factor in the cost of construction of a covered bath, and we have devoted some time to a careful consideration of the dimensions which should be adopted.

In the various schemes investigated, the main pool has varied in size from 132 feet by 42 feet to 60 feet by 30 feet, but the majority have had a length of 75 or 100 feet and a width of 30 or 35 feet.

285. The size of the swimming pool should be influenced primarily by the extent of the resident or visiting population to be served and the possible growth of demand, but while it is not possible to suggest any ratio between the size of the pool and the population we have come to the following general conclusions.

(a) *Length of Pool.*—In a small town where the users of the bath are likely to be confined to the inhabitants of the immediate neighbourhood, we are of the opinion that a length of 75 feet will usually suffice for ordinary requirements. For baths where galas are likely to be held, a length of 100 feet is more suitable, and for the principal bath in any large town, this length is recommended: but where there is already a modern central bath with a length of 100 feet or more, in any additional "district baths" the length of the pool need not be more than 75 feet.

(b) *Width of Pool.*—In determining the width of the pool it should be borne in mind that an increase in the width increases the span of the bath hall, and consequently has a greater effect on the cost of construction than an increase in the length.

For a bath with a length of 75 or 100 feet a suitable width is 35 feet, but a width of 30 feet is sufficient for a bath serving only a small population.

A width of 35 feet should not normally be exceeded except in the case of a centrally situated bath in a large town where important swimming events are likely to take place.

(c) *Depth of Pool*.—The depth of the pool should not exceed 3 feet at the shallow end. At the other end, for purposes of diving a depth of 7 feet or more is necessary for a short distance, but in view of the cost, particularly in situations where water or a bad foundation may be met with, the maximum depth should not be more than 9 feet, unless it is intended to hold frequent galas or there is likely to be a demand for high diving. In the latter event, the depth should be increased in accordance with the requirements of the Amateur Diving Association.

## THE BATH HALL.

### *Bath Surrounds.*

286. For the surrounds at the sides of a bath a width of 4 feet 6 inches is sufficient where it is not intended to accommodate spectators. The surround at the shallow end should be of the same width as the sides, but at the deep end it should have a width of 9 feet.

### *Accommodation for Spectators.*

287. In many of the older baths in existence accommodation for spectators was provided by means of over-hanging side galleries, but the width of the building and the height of the galleries frequently made it almost impossible for occupants other than those in the front row to obtain any view of what was happening in the bath. Some more recent baths have provided accommodation for spectators by means of an "amphitheatre" arrangement of seating. This gives a more satisfactory view of the bath to the spectators, but the increase in the width of the bath hall which it entails adds considerably to the capital cost.

We are of opinion that the increased capital cost of providing accommodation for spectators by means of an "amphitheatre" arrangement of seating would only be justified in the case of large central baths where important swimming galas are likely to be held. Where the galas are likely to be of purely local interest, it should be sufficient if the surrounds were made wide enough to accommodate two rows of temporary seats. For this purpose, a width of 7 feet would suffice, and this width should not normally be exceeded.

## DRESSING ACCOMMODATION, ETC.

*Dressing Boxes and Lockers.*

288. It is now common practice to adopt the economical arrangement of providing dressing accommodation outside the main bath hall, but we have found some difference of opinion as to the extent of the accommodation which should be provided.

In most baths recently erected dressing boxes are not provided in sufficient numbers to allow each bather to retain one while he is in the water, and a number of systems are in use for the storage of bathers' clothing by means of lockers, bags, hangers, etc. If lockers or other containers are provided in the proportion of three to each dressing box, and we think this is a suitable proportion, the number of dressing boxes necessary may be taken as one to every 70 square feet of water area. Dressing boxes should have a width of 2 feet 9 inches between centres and a depth of 3 feet 6 inches.

289. Communal dressing rooms are an economical means of providing dressing accommodation as they reduce the floor area required and avoid the necessity for partitions. They are said to be preferred by some bathers to the confined space of a small dressing box, and they are suitable for school children, all of whom can be under observation by their own attendant. They are also useful for clubs and as an overflow during a peak demand for accommodation. We accordingly recommend that in addition to the dressing boxes there should be two communal dressing rooms, one for each sex, of approximately 300 square feet each.

*Cleansing Rooms.*

290. A cleansing room containing showers and footbaths, so arranged that each bather must pass through a footbath, should be situated at each access to the pool. The number of showers and the temperature of the water supply should be such as to encourage the bathers to use them, but in the past this provision has often been made on rather a meagre scale. We recommend that showers should be provided in the proportion of about one to four dressing boxes. Each shower should have a liquid soap container.

*Sanitary Accommodation.*

291. The sanitary accommodation should be so situated that it is easily noticed by each bather on his or her way to the pool and is not accessible from the pool without the bather being obliged to pass through the cleansing room. There should be two W.Cs. for women and two W.Cs. and three urinals for men, but the accommodation should be so arranged that if at times the bath is used only by women swimmers they have



access to all the W.Cs. Steps should be taken to prevent the sanitary accommodation being ventilated towards the cleansing room or bath hall.

In the case of baths likely to be used for galas, separate sanitary accommodation will be required for spectators.

#### CHILDREN'S BATH.

292. The provision of facilities for teaching children to swim is important, but the use of the shallow end of a big bath for teaching purposes interferes with the proper use of that bath, and the noise in a big bath makes it difficult and almost impossible for an instructor to make himself heard. A separate small bath for children should therefore be provided, but wherever possible the two baths should be so arranged that on occasion both baths can be supervised by one attendant.

The children's bath should have a minimum area of 600 square feet. The safety of the bathers should be the governing factor in determining the depth. The communal dressing rooms referred to above should be so situated that they can be used by classes of children attending the children's bath, and there should be cleansing and sanitary accommodation as for the main bath.

#### CONSTRUCTION AND FINISH.

293. In the bath hall excessive height should be avoided. Where a pitched roof ceiled at the tie-bar level is adopted, and this is usually the most economical form of construction, a height from the level of the bath surround to the highest part of the ceiling equivalent to about half the width of the hall should be sufficient.

The walls should have a tiled or glazed brick dado, but this need not exceed 7 feet in height. Above the dado, fair-faced common brickwork distempered, or a light-toned facing brick, is suitable.

294. The swimming pool is usually formed of reinforced concrete, and we are unable to suggest any more economical or more suitable material for the purpose. The concrete should be lined with asphalt. The sides of the pool should be finished with glazed tiles on a backing of brickwork, or glazed bricks, and the bottom of the pool with glazed tiles on a backing of weak concrete.

For the bath surrounds ribbed or grooved or similar non-slip tiles form a suitable finish.

295. The practice as to the extent to which scum channels are provided varies. In some baths they are provided at the ends only, and in others at the sides as well. We are of opinion that there should be a scum channel all round the bath, with frequent outlets to the drainage system. There should also be a handrail all round the bath.

296. For the dressing boxes, the communal dressing rooms and the cleansing rooms a floor of asphalt with granite or other aggregate to give a non-slip surface is suitable and economical.

The partitions between the dressing boxes may be of teak, metal-faced plywood, terrazzo, or smooth-faced concrete slabs. Curtains are to be preferred to doors.

The walls behind the dressing boxes and the walls of the communal dressing rooms should have a tiled dado 5 feet high. The cleansing rooms should be tiled to the full height.

Woodwork should be reduced to the minimum, but what there is should be of teak or other hardwood.

#### SLIPPER BATHS.

297. For ease in supervision and economy in wastes and services, slipper baths should be arranged on either side of a central corridor. Economy in the total number of baths to be provided can be secured if they are planned in such a way that the numbers for men and women can be varied from time to time. No division into first and second class baths is necessary.

298. For the divisions between slipper baths and between the slipper baths and the corridor bricks glazed both sides are recommended, and for the floors asphalt with granite or other aggregate to give a non-slip surface. The walls should be lined with tiles or glazed brick to the height of the divisions, with painted plaster above.

299. Shower baths are more economical as to water and space than slipper baths, but are not generally so popular. Where a swimming bath is situated near playing fields, the inclusion of a number of shower baths in a suite of slipper baths might be considered for the use of those engaging in outdoor sports who may not be swimmers.

#### SPECIAL BATHS.

300. As already stated, a somewhat elaborate nature of construction and equipment is necessary for special baths, such as Turkish, Russian, vapour, foam, etc. We do not consider it possible to lay down standards for these baths, but in their construction questions of condensation must be carefully considered, and the use of wood and other absorbent materials should be reduced to a minimum, such woodwork as is unavoidable being of teak.

#### ESTABLISHMENT LAUNDRY.

301. If an establishment laundry for the washing of bathing costumes and towels is provided, its size and equipment will depend on the size of the swimming bath, the number of slipper and other baths, and whether washing is done for other establishments.

The wall and floor finishings should be similar to those suggested below for the public wash-houses.

### WASH-HOUSES.

302. The essential provision for public wash-houses comprises a separate entrance with ticket-office, and a wash-house and mangling, drying and ironing room, planned in a proper sequence, with the necessary sanitary accommodation and a store for vehicles, usually perambulators, on which washing is brought.

Washing compartments and washing machines should both be installed, but as in some districts the latter are becoming more popular than the former, room for an increase in the number of machines might, with advantage, be allowed.

Walls should be of salt glazed bricks or engineering bricks up to a height of 4 feet 6 inches, with common brick above. Floors should be of granolithic. Adequate drainage from floors and all machines is essential.

Ventilation is of the utmost importance, especially in the wash-house. Sanitary provision should be in the proportion of one W.C. to about 20 washers, with a minimum of two W.Cs. There should be an adequate supply of drinking water, and possibly arrangements for tea-making.

### ENGINEERING SERVICES.

#### *Drainage.*

303. Foul and surface water drainage should be connected to the public sewers. Unless there is a convenient stream at hand, a large volume of water will have to be passed into these sewers when the pool is emptied, and it should therefore be ascertained when selecting a site for a bath that the existing sewerage system is adequate for the purpose.

#### *Water Supply.*

304. The public supply will generally be used, and after the first filling of the pool, the amount of water required per day will only be that required to make up the wash water from the filters. The supply from the main should not pass directly to the pool but should be delivered through the filtration apparatus.

#### *Boiler House.*

305. The design for a system of heating and hot water for a large establishment which may include one or more swimming pools, slipper baths, special baths and wash-houses should be carried out on similar principles to those already discussed in Section XI of our Report on the Acute General Hospital.



306. The fuel to be used in the boilers should be coal or coke, unless special circumstances prevail which make the substitution of oil, gas or electricity either essential or at least as economical as that of solid fuel. For instance, the site selected for the baths may be in a closely built-up area and the land acquired restricted to such an extent that storage space for coal or coke is not available; or the site may be so situated that the erection of a tall chimney stack would be objectionable. In such cases the use of gas or electricity may prove to be necessary.

#### *Treatment Plant.*

307. The purification of the water of swimming baths is a matter of public health as well as of amenity. A Report\* on the subject was issued by the Ministry of Health in 1929, and it is the established practice of the Ministry in sanctioning loans to ensure that the essential recommendations of that Report will be complied with, the main requirement being the provision of plant for the continuous filtration, purification and aeration of the bath water. This is not only more satisfactory than the old system of emptying and refilling the bath with fresh water, which had to be heated on each occasion when the bath was filled, but it is also more economical.

308. The Department requires the rate of filtration to be such that the whole volume of water in the pool can be passed through the filters in a period of not exceeding four hours. We understand that some Local Authorities have found that even with this rate of turnover the water in the pool at "peak" demand is not entirely satisfactory and have installed additional filters to enable the water to be treated at a greater rate of turnover. As the tendency to-day is towards extra provision in this respect, the lay-out should be such as to enable an additional filter to be installed in the future. It should be noted that the pre-cleansing facilities provided, and the extent to which their use is enforced, will materially affect the condition of the water to be treated.

309. The usual method of purification adopted is to add chlorine to the effluent from the filters. Other sterilising agents are available (e.g., ozone), but they are not so economical as chlorine, and the latter should, therefore, be generally adopted.

#### *Heating.*

310. Heating of a bath building should be by means of ordinary radiators under a low pressure hot water system.

#### *Lighting.*

311. Artificial lighting should be by means of electricity. Care should be taken to ensure that no lights are suspended above the pool area, so as to avoid broken glass falling in the

---

\* The Purification of the Water of Swimming Baths, 1929.

pool and the consequent necessity of emptying the pool. The installation should be such that no short circuits are possible due to the humid atmosphere.

Underwater lighting has been intalled in some recently erected baths, but we consider that the additional expense involved can rarely be justified.

### *Ventilation.*

312. Natural ventilation should normally suffice, but special consideration should be given to the ventilation of the bath hall, especially at the ends, in order to prevent discolouration of the roof and wall surfaces by the moisture-laden atmosphere.

The amenities of a closed bath may be improved during summer months, and some approximation to open-air conditions obtained, if the side walls are provided with large opening windows on the south side.

## **Open Air Swimming Pools.**

### **SITE AND GENERAL LAY-OUT.**

313. The conditions governing the provision of an open air swimming pool are entirely different from those of a covered swimming bath, as open air swimming can only be enjoyed during the summer months. Open air pools fall into two main groups, viz.: those at seaside resorts which are provided primarily as a means of attracting holiday visitors to the town, and those in ordinary residential areas which are provided for the use of the local inhabitants and are often supplementary to a covered bath.

We do not feel that it is possible to suggest standards for the seaside type of open air pool. There are many features which might be justified in a large open air pool at a popular seaside resort, and which might be a source of revenue, which would be an extravagant and unwarrantable provision in the case of inland towns generally. Our recommendations are intended to apply only to open air pools which are provided mainly for the use of the local residents.

314. The selection of a site should have regard to the immediate surroundings so as not to be overlooked by neighbouring buildings; and the general amenity of the district should be considered, particularly if sun-bathing is contemplated. A site either in or adjacent to a public park or recreation ground is very suitable, and in the case of a seaside town a site near the seafront is usually most advantageous.

315. The actual grouping of the buildings will be governed by local requirements, but they should be planned to permit the maximum access of sunlight to all parts of the pool and enclosure. The whole of the bathing area should, as far as

possible, be obscured from the view of the outside public, either by buildings, screen walls, or natural features. The building housing the filtration plant and machinery should be situated as unobtrusively as possible and should be designed to harmonise with the other buildings.

316. The provision of accommodation for the sale of light refreshments is frequently included in the lay-out, but if a café is provided which it is intended shall be used by both bathers and spectators it should be so placed as to give access to non-bathers without their encroaching on the bathing surrounds. Facilities for car parking are an advantage if patrons are likely to be drawn from a large area.

## THE SWIMMING POOL.

### *Dimensions.*

317. The size and shape of an open air swimming pool are not governed by any consideration of the cost of an enclosing building. A rectangular shape, being cheaper in construction, should, however, be adopted unless there are special reasons, such as the contour or configuration of the site, for planning otherwise.

318. The annual period of usefulness of an open air pool is, of course, shorter than that of a covered bath, and it is only on comparatively few days in the year that there is a peak demand for accommodation; but while the additional cost of increasing the size of the pool might be comparatively small, it must be borne in mind that, as the whole of the water would have to be turned over in 6 hours, the provision of a pool with a larger water content than is normally required would entail extra expenditure in the provision of filters and treatment plant to deal with the increased volume of water and also additional operating costs.

319. In the many schemes submitted for the approval of the Department during the last few years, the majority of the pools had a length of 100 feet to 165 feet and a width of 40 to 60 feet.

We are of opinion that the dimensions of the pool must be governed by the estimate of the local requirements, and we do not see any necessity to suggest the adoption of any standard size.

320. Where it is intended that the pool should be used chiefly by persons who indulge in swimming and bathing, we do not consider that the dimensions we have recommended for a covered bath need be greatly exceeded.



Where, however, it is intended to cater for patrons who wish to sun-bathe and to spend a considerable time on the premises, it is usual to provide a café and other amenities, and in such cases a larger pool may be required in order that those who wish to swim are not inconvenienced by a crowd of non-swimmers. A somewhat longer shallow end to the pool would, in those circumstances, be a reasonable provision to make, but in any case we consider that the size of the pool, including such provision, should not exceed 165 feet by 60 feet. This would provide the maximum water polo area (90 feet by 60 feet) and allow sufficient shallow water at one or each end for other bathers.

In a town where there is already a covered bath, a comparatively small open air pool is all that is necessary.

321 Separate provision for children may be met by means of a bay at the side of the main pool. In some instances a small separate shallow pool has been provided for toddlers, the water being only a few inches in depth.

#### *Construction and Finish.*

322. As in the case of a covered bath, the pool itself is usually constructed in reinforced concrete.

For the finish of the sides and bottom of the pool pre-cast coloured concrete blocks may be used; or the concrete may be mixed with white cement and marble chippings, or other coloured aggregate may be incorporated in the surface.

#### *Surrounds.*

323. The amenity of a pool is enhanced by a wide surround, but a width of 10 feet need not be exceeded.

Surrounds should fall to a drainage channel at the margin furthest from the pool edge, and they may be finished in coloured concrete slabs, left slightly rough to form a non-slippery footway.

324. Provision may be made for sun-bathing in areas adjoining the surrounds. Such areas should be laid out on a slight slope and drained. They should be surfaced with fine clean shingle; sand or grass is unsuitable owing to the amount of sand or dirt which may be carried into the pool by bathers.

#### *DRESSING ACCOMMODATION, ETC.*

325. Many persons visit open air pools in hot weather not so much for the exercise of swimming as for sun-bathing, etc., and in consequence the time between undressing and redressing is longer than in the case of a covered bath. The number, dimensions and methods of construction of dressing boxes should be the same as in the case of a covered bath, but more

locker accommodation is necessary, and lockers or clothes holders should be in the proportion of 6 to every dressing box.

Cleansing arrangements and sanitary accommodation should be similar to those for a covered bath.

#### ACCOMMODATION FOR SPECTATORS.

326. A large proportion of the revenue of an open air pool may be obtained from spectators. Spectators must, however, be accommodated in such a way that they do not make use of the surrounds of the pool, so as to avoid any possibility of contamination from their shoes being carried by bathers into the water. Separate sanitary accommodation should be provided for the use of spectators.

#### ENGINEERING SERVICES.

327. The same remarks apply to the engineering services of open air pools as are made above in connection with covered baths, with the following exceptions:—

*Filtration.*—The turnover period should be at least once in 6 hours.

*Heating.*—Open air swimming pools are not usually heated, but in a number of instances provision has been made to instal a boiler for the purpose of heating the water a few degrees above the air temperature. In support of this it is urged that an open air pool with heated water can be opened earlier in the season and can remain open longer; and, further, that as there are many days, even during the five summer months, when the air conditions are unfavourable to open air bathing, the knowledge that the water was warmed would attract many bathers who would not otherwise attend. We consider that the additional cost of a heating plant would only be justified if a careful estimate of the increased revenue likely to result from its installation shows an excess over the working costs, including loan charges.

*Lighting.*—At seaside and other towns where a large number of visitors may be anticipated during the summer season, the provision of flood and decorative lighting will add to the attractiveness of an open air pool and may repay the cost of installation. Where, however, a pool is provided mainly for the local residents, we are of opinion that the outlay on such lighting is not justified.

## X.—SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.

328. We append a summary of the principal conclusions and recommendations contained in this Report:—

### I.—THE MATERNITY DEPARTMENT.

(1) The special requirements of a Maternity Department complicate planning and raise the cost as compared with that of General Hospital accommodation (paragraph 14).

(2) Very small Maternity Departments are not desirable, and maternity services should be so organised that Departments of less than 20 lying-in beds are avoided. It does not seem to be practicable to limit Maternity Departments to a maximum of 60 to 70 beds, nor do we consider that there is any objection to a greater number, provided that suitable administrative arrangements are made. Our conclusions are intended to apply to a Maternity Department containing about 60 lying-in beds with certain other sections and forming part of a General Hospital, but are capable of modification to make them applicable to Departments greater or less in size or to separate Maternity Hospitals (paragraphs 15 and 16).

(3) A lying-in ward unit should contain a maximum of 30 beds. There should be no large wards. It does not seem desirable to fix any definite size of ward which should be adopted in all cases, but we regard eight beds as the maximum number; and we are favourably disposed towards wards of four beds, if they can be so planned as to provide good lighting and ventilation. In a ward unit of 30 beds, we consider there should be not less than 6 single-bed wards (paragraphs 17 to 20).

(4) Single-bed wards should have an area of 120 square feet, and 9 feet is sufficient for their height. Other wards should have a space between bed centres of 8 feet, an area per bed of 100 square feet, and a height of 10 feet (paragraph 21).

(5) Every lying-in ward unit should contain a nursery for infants. The size of the nursery should be on the basis of 25 square feet per cot, assuming the same number of cots as lying-in beds (paragraph 22).

(6) The ancillary rooms in a lying-in ward unit should be similar to those recommended for an ordinary ward unit in our Report on the Acute General Hospital, with the addition of a second sluice room (paragraphs 23 and 24).



(7) The labour wards may be concentrated in a single Section containing four first-stage rooms (80 to 100 square feet each) and four delivery rooms (220 square feet each), with a sterilising room and a sluice room, to serve the two lying-in ward units, or a labour suite consisting of two or three first-stage rooms, two delivery rooms, a sterilising room and a sluice room, may be provided in association with each ward unit. An operating theatre may not be necessary as the theatre facilities of the General Hospital should usually be available, but if a theatre is required one of the delivery rooms should be made somewhat larger and fitted as a theatre (paragraph 25).

(8) One Reception Section can serve the whole Maternity Department. It should include a small waiting room and two preparation rooms of about 150 square feet each (paragraph 26).

(9) "Potentially Septic" patients should not come into contact with other patients, and should therefore be admitted to single-bed wards. In certain circumstances the single-bed wards provided as part of the lying-in ward units may be used for emergency admissions, but where the proportion of "potentially septic" cases is large a special Section should be provided for them, containing a delivery room with sterilising recess, a sufficient number of single-bed wards, a duty room, and sanitary provision including sluice room (paragraph 28).

(10) Pending a definite diagnosis, a patient who develops signs suggestive of sepsis after delivery should be transferred to a single-bed ward for observation, and for such temporary separation it is useful to have four single-bed wards grouped together and provided with their own duty room and sanitary accommodation, but this special Observation Section may not be necessary when the Maternity Department forms part of a General Hospital (paragraph 29).

(11) A patient who becomes definitely infective with puerperal sepsis should be transferred at once to isolation accommodation outside the Maternity Department (paragraph 30).

(12) Ante-natal supervision has now become a necessary part of the work of the Maternity Department. We give particulars of the accommodation required in the Ante-Natal Clinic, and we recommend the provision of 10 beds for ante-natal purposes, in addition to the 60 lying-in beds. These 10 beds may be in one ward of eight beds and two single-bed wards, but there is no objection to more than eight beds in an ante-natal ward (paragraphs 36 to 41).

## II.—ACCOMMODATION FOR SICK CHILDREN.

(13) Accommodation for sick children may be planned either as a separate Hospital or as a Department of a General Hospital. With regard to the in-patient accommodation, the governing consideration is the special liability of children to infections of various kinds and the consequent necessity of taking all practicable measures to reduce the risk of the spread of infection (paragraphs 44 and 45).

(14) The standard ward unit should contain 30 beds. The number of single-bed rooms should be liberal; in our opinion, not less than six in a ward unit of 30 beds. Other wards for children should not contain more than eight beds, and it is preferable that the number should be restricted to six, or even four (paragraphs 46 and 47).

(15) On account of the smaller size of the beds the amount of space required for convenient working is less in children's than in adult wards. For children up to about 10 years of age we regard a superficial area of 80 square feet per bed as a satisfactory standard, provided that the space between bed centres is not less than 8 feet. For children under the age of two years slightly smaller dimensions would suffice. As no ward will contain more than eight beds, a height of 10 feet is sufficient. Facilities for open air treatment should be provided (paragraphs 48 to 51).

(16) The ancillary rooms necessary in a children's ward unit are broadly the same as in the case of adult wards, but more baths are required and there should be a milk preparation room (paragraphs 52 to 55).

(17) A Children's Hospital should always contain isolation accommodation apart from the ward units. The amount of isolation accommodation required depends to some extent on the facilities available for transfer to an Isolation Hospital, but it is relatively greater than in a General Hospital on account of the special susceptibility of children to infection (paragraph 56).

## III.—ACCOMMODATION FOR CASES OF CHRONIC SICKNESS.

(18) Accommodation for patients suitable for chronic wards may be provided either in a special Hospital or as part of a General Hospital which deals with acute cases. There are certain advantages in the latter course, but where the number of patients of the class under consideration is large it may be more convenient to provide for them in special Hospitals (paragraphs 58 and 59).

(19) In a Chronic Hospital treatment is simpler than in an Acute General Hospital, changes of patients are much less frequent, and the amount of clerical work is very much less. Accordingly, we consider that subject to certain safeguards a ward unit may properly contain up to 60 beds (paragraph 62).

(20) There is much less objection to large wards containing say 20 to 30 beds than in the case of an Acute General Hospital, but it is necessary to provide for some degree of classification of patients, and unless the numbers in each class are large enough to occupy large wards there should be a sufficient number of smaller wards to admit of proper classification. For separation purposes, there should be six single-bed wards in a ward unit of 60 beds (paragraph 63).

(21) Wards need not be more than 24 feet wide, and a space of 7 feet between bed centres is sufficient. For single-bed rooms an area of 100 square feet is sufficient. The heights of chronic wards should be the same as those given in our Report on the Acute General Hospital (paragraph 64).

(22) The adoption of the longitudinal arrangement of beds might be worth considering for chronic wards, in which case an area of 90 square feet per bed would probably be satisfactory (paragraph 65).

(23) The size of the dayroom required in each ward unit, except in those reserved for bedridden cases, must be based on the number of patients expected to be able to use it, and while no definite standard can be laid down, a minimum area of 240 square feet is suggested (paragraph 67).

(24) The ancillary rooms necessary in a chronic ward unit of 60 beds (with suitable areas) are as follows:—

	<i>Sq. ft.</i>
2 Sluice rooms, with recess for testing, each	130
2 Bathrooms, each ... ..	90
1 Ward office and duty room ... ..	100
1 Ward kitchen ... ..	240
1 Linen store ... ..	100
1 General store ... ..	100

together with two patients' lavatories, each with two W.Cs., staff lavatory and W.C., and cleaners' room. We explain the differences in the ancillary rooms as compared with an acute ward unit (paragraphs 68-70).



#### IV.—RESIDENTIAL INSTITUTIONS FOR PULMONARY TUBERCULOSIS.

(25) The development in the treatment of pulmonary tuberculosis during the past 15 or 20 years, the results of the operation of the Local Government Act, 1929, and various local considerations limit the field within which standards can be applied to Residential Institutions for Pulmonary Tuberculosis (paragraph 77).

(26) As many factors influence the planning and arrangement of the Institution, it would be undesirable to attempt to recommend standards as to the size. Where necessary, Authorities should combine to establish an Institution of suitable size (paragraphs 78 to 80).

(27) The area of the site should be sufficient to provide ample space for recreation and exercise, and attention should be paid to transport facilities. The usual practice, until recently, has been to adopt single storey pavilions, but there is now a tendency, in the case of Institutions of sufficient size, towards greater concentration in buildings of two or more storeys (paragraphs 81 and 82).

(28) The number of beds which can be controlled by one sister varies with the type of case occupying them, and the size of a ward unit can properly vary within fairly wide limits, say from 30 to 50 beds. Large wards are undesirable for the treatment of tuberculosis. The proportion of single-bed wards varies according to circumstances, but generally from about 15 per cent. to 20 per cent. will be found to be required. Other wards should contain a maximum of six, or even four, beds. Terraces or balconies wholly or partly open to the sky and widely opening windows are desirable in wards for certain types of patients (paragraphs 83 to 85).

(29) An allowance of bed space somewhat smaller than that required in a General Hospital is appropriate. Single-bed wards should have an area of 90 square feet, and other wards an area of about 80 square feet per bed. A height of 9 feet is sufficient for single-bed wards and 10 feet for other wards (paragraphs 86 and 87).

(30) The ancillary rooms in a ward unit are, broadly speaking, similar to those required in a General Hospital, though some modifications will be required. A dayroom will usually be necessary (paragraphs 88 and 89).

(31) Special departments will not be required on the same scale as in a General Hospital, but there is need for a medical treatment unit (paragraph 90).

(32) The central dining hall should be situated near the main kitchen, and provision should be made on the basis of 14 square feet per patient for the maximum number estimated to be able to use it (paragraph 91).

## V.—ISOLATION HOSPITALS.

(33) As in the case of Tuberculosis Institutions, standards are applicable to Isolation Hospitals only to a rather limited extent (paragraph 96).

(34) By joint action or co-operation on the part of Local Authorities the erection of very small Isolation Hospitals should be avoided, but we do not think it possible to recommend any standard minimum size (paragraph 97).

(35) Elasticity of accommodation is increased by having numerous small blocks rather than a few large ones, and this leads logically to a plan of small one-storey pavilions in all but the larger Hospitals (paragraph 98).

(36) The size of the ward unit cannot be standardised by reference to the number of patients that can be supervised by a sister. It must, in many cases, be determined by the size of the Hospital and the greater elasticity conferred by small units. About 12 beds in a ward should be the maximum number, but there is much to be said in favour of quite small wards (say of four beds), especially in the case of scarlet fever. Each ward unit should contain two single-bed wards (paragraph 100).

(37) The space between bed centres should be not less than 12 feet, and a suitable width for wards for six beds and upwards is 24 feet, but a ward of 20 feet by 20 feet is suitable for four beds. Single-bed wards should be 10 feet by 11 feet. The height of wards containing up to 6 beds should be 10 feet, and that of larger wards 11 feet (paragraph 101).

(38) For ancillary rooms somewhat simpler provision will suffice than that recommended in our First Report for an Acute General Hospital (paragraph 102).

(39) A cubicle block should contain not more than six single-bed wards on each side of a central duty room, with the sanitary accommodation placed centrally opposite the duty room, but separated from it by a service corridor which should be mainly open (paragraphs 103 and 104).

(40) In a small Isolation Hospital the administration block and the residential accommodation for staff may, with advantage, be combined in one building, but in no circumstances should sleeping accommodation for staff be provided in a ward block (paragraph 105).

## VI.—MENTAL HOSPITALS.

(41) A Hospital for patients suffering from mental disorders must combine the characteristics of a Hospital and of a residential establishment forming a social unit in which

provision is made for medical treatment and nursing, for re-education and nursing, and for exercise and recreation (paragraphs 109 to 115).

(42) We recognise that there are differing opinions on what should be the maximum size of a Mental Hospital, but as that question has been the subject of independent investigation on two occasions in recent years we consider that it is not a matter which we need re-open. For the purposes of this Report we have adopted 1,000 beds as a convenient size for description (paragraph 116).

(43) On the question whether there should be separate Hospitals for men and women we have found opinion almost universally in favour of a combined Hospital for the two sexes. We set out the groups of patients for which separate ward units should be provided, and give reasons for the necessity for the classification of patients into those groups (paragraphs 117 to 122).

(44) We attach great importance to the site chosen for a Mental Hospital, and set out the considerations which should be taken into account (paragraphs 123 to 125).

(45) We find that it is now the generally accepted practice to erect buildings of not more than two storeys. For reasons directly connected with the mental condition of patients it is inadvisable to make use of lifts, and for those reasons, and in view of the risk of fire, high buildings are not suitable for a Mental Hospital (paragraph 127).

(46) The size of the ward unit, depending upon the type of patient under treatment, must of necessity vary within wide limits, but no single ward unit should have more than 50 patients, and for certain types the number may be 15 to 20 (paragraph 128).

(47) We regard a width of 20 feet as a good general standard which might be applied to dormitories throughout a Mental Hospital, and a height of 10 feet as sufficient for dormitories and dayrooms (paragraphs 133 and 135).

(48) In ordinary ward units, no dormitory should have in it more than 30 beds. There should be a minimum distance of 5 feet between bed centres, and a minimum floor space of 50 superficial feet per patient. Single-bed rooms should have a minimum width of 6 feet 6 inches and an area of about 65 superficial feet. The standard of day space should not be lower than 40 superficial feet per patient for the total number of patients, and each ward unit should have ancillary rooms for the purposes we set out (paragraphs 130 to 136).



(49) In the Admission Hospital, there should be small dormitories with 7 feet between bed centres, and single-bed rooms with an area of 100 superficial feet. The standards of day space and ancillary room accommodation should be those of ordinary ward units (paragraphs 138 to 141).

(50) Convalescent homes for patients who are sufficiently recovered to require little supervision should be of the simplest type and approximating to that of an ordinary house of two storeys. They should contain cubicles divided by partitions and small dormitories for not more than three or four beds each. The standards of day and night space should be those of the ordinary ward unit (paragraph 142).

(51) In the Sick Hospital, there should be 7 feet between bed centres, with additional facilities for the treatment of patients on adjoining open verandahs. The area of single-bed rooms should not be less than 85 square feet. Dayroom accommodation should be provided on the basis of 40 superficial feet per patient for one half of the number of beds in the Sick Hospital (paragraphs 143 to 146).

(52) The section for excited and disturbed patients should be arranged in ward units of small size containing not more than 30 to 35 beds, and no dormitory should contain more than 16 beds. The day space should be on the basis of 50 superficial feet per patient, and it should be subdivided to give some classification within the ward unit. The other standards should be those of the ordinary ward unit (paragraphs 147 to 150).

(53) In ward units for the senile and infirm there should be an average of 6 feet between bed centres, and the area of single-bed rooms should not be less than 85 square feet. Dayroom accommodation should be provided on the basis of 40 superficial feet per patient for about three-quarters of the number in the group (paragraphs 151 to 153).

(54) We give particulars of the rooms required for special purposes, viz.: X-ray room, operating theatre, laboratory, dental rooms, hydrotherapy, massage, electrical and light treatment, and dispensary (paragraphs 154 to 160).

(55) The arrangements for the residential accommodation of staff, including the Nurses' Home, should in general follow those suggested in our Report on the Acute General Hospital (paragraphs 161 to 170).

(56) We give particulars of the accommodation required in the official block (paragraphs 172 to 174).

(57) The provision of a central kitchen to serve all sections of the Hospital is recommended. On the question whether there should be a separate kitchen in the Nurses'

Home we have not been able to come to a definite conclusion, but we are inclined to suggest that the main meal of the day should be cooked in the central kitchen and the other meals prepared in a small kitchen in the Home (paragraphs 175 and 176).

(58) Staff dining rooms should be so arranged for groups of staff, or a general restaurant provided near the main kitchen. We are, however, inclined to agree that the dining rooms for female nurses should be in the Nurses' Home (paragraph 178).

(59) We make recommendations as to the size of the recreation hall, visiting rooms and occupation rooms (paragraphs 181 to 186), as to a number of other general services (paragraphs 187 to 191), and as to methods of construction, materials and finishings generally (paragraphs 192 and 193).

## VII.—MENTAL DEFICIENCY COLONIES.

(60) We express our general agreement with the Report of the Departmental Committee on Colonies for Mental Defectives, 1931 (known as the Hedley Report), and limit our Report to comments on the Hedley Report and suggested amendments to it (paragraphs 194 and 195).

(61) A Colony of not less than 800 beds represents the practical minimum size which permits adequate classification in a complete Colony of all grades of defectives. Where necessary, Authorities should combine to establish Colonies of not less than that size (paragraph 196).

(62) In every large Colony, even where there is a school assembly hall, there should be in addition to the recreation hall a simple structure in which patients may undergo physical training (paragraph 197).

(63) Every Colony should have one or more hostels in which to complete the training of those patients who are likely to go out and become partially or wholly self-supporting. Hostels should be small, with probably not more than 20 to 30 beds in each, and should, if practicable, be administered from the Colony (paragraph 199).

(64) The present standard of day space of 30 superficial feet per patient is a good one, but in the Sick Hospital it is only necessary to provide day space for one-third of the patients under treatment. As regards night space, the present standard of 40 superficial feet per patient is too low. Except in the Sick Hospital, dormitories should be 18 feet wide, with 5 feet between bed centres and a minimum floor space of 45 superficial feet per patient. In the Sick Hospital, the wards should be 20 feet wide with 7 feet between bed centres, and there should, in addition, be facilities for nursing patients on verandahs (paragraphs 200 to 202).

(65) There are advantages in single-storey buildings, not only for low-grade cases but also for active children and adults whose habits are defective and who require frequent nursing attention (paragraphs 203 and 204).

(66) We are opposed to the erection of buildings wide enough to take three rows of beds in the dormitories (paragraph 205).

(67) We point out the advantages of the concentration of the washing arrangements on the ground floor of villas, and make recommendations as to the provision of water closets, storage accommodation and sluice rooms (paragraphs 206 to 210).

(68) We make recommendations as to the numbers of nursing and domestic staff for whom residential accommodation may have to be provided, the area of land required for a Colony, and the methods of construction, materials and finishings of a Colony (paragraphs 211 to 215).

#### VIII.—PUBLIC ASSISTANCE INSTITUTIONS.

(69) Of the institutional cases remaining to be dealt with as Public Assistance cases, other than children over three years of age and casual wayfarers, no uniform classification has received general acceptance, but we deal with the types which have usually to be provided for (paragraph 218).

##### *Accommodation for Aged People.*

(70) Local Authorities are experimenting with different types of accommodation for old people, but as the experience of the experiments already embarked upon has been so limited we do not feel ourselves in a position to recommend the adoption of one type of accommodation to the exclusion of any other type. There appears, however, to be general agreement that groups of small Cottage Homes are suitable for the less industrial areas, while larger groups of similar Cottage Homes or a single large Home may be considered more appropriate for old people who have been accustomed to living under urban conditions (paragraphs 220 to 223).

(71) In groups of small Homes for healthy old people, each Home should accommodate about 20 people. There should be some single-bed rooms, about 85 square feet each, and dormitories for three or four beds, allowing a minimum area of 60 square feet per person. Dayroom accommodation should be on the basis of 40 square feet per person if the dayrooms are also used as dining rooms, or 25 square feet per person where separate dining room provision is made (paragraphs 224 and 225).



(72) Large Homes should normally be of not more than two storeys, and the number of residents should not exceed that in which the average Superintendent and Matron can take an individual interest. There should be a central dining hall which could be utilised for religious services and for entertainments, with the other accommodation grouped round the central hall and the kitchen. Dayrooms should be of a moderate size, and should allow 25 square feet per person, in addition to the space in the central dining hall. There should be some single-bed rooms, about 85 square feet each, and dormitories, none of which should contain more than 12 beds, planned so as to give 6 feet between bed centres and a minimum floor area of 60 square feet per person (paragraphs 227 to 229).

(73) If a block for infirm people is placed on the same site as Homes for healthy old people, it should contain a few single-bed rooms and units consisting of small wards. Space should be allowed in the wards for serving meals; or, where the numbers justify it, dayrooms, which would also be used for serving meals, may be provided on the basis of 40 square feet per person for about three-quarters of the number of beds. Single-bed rooms should have an area of about 85 square feet, and other dormitories should allow a minimum floor area of 60 square feet, apart from any space required for serving meals (paragraphs 231 and 232).

(74) Accommodation for the infirm in a general Institution may be provided on lines similar to the above, but where large numbers have to be accommodated, the main dormitories may contain from 20 to 30 beds, with 6 feet between bed centres and a minimum floor area of 60 square feet per person (paragraph 233).

(75) Old People's Homes should be designed on homely and simple lines, and every endeavour should be made to avoid an "institutional" atmosphere (paragraph 234).

#### *Accommodation for the Able-bodied and Miscellaneous Classes.*

(76) The number of able-bodied men and women in Public Assistance Institutions is practically negligible, except in Institutions serving large towns or industrial districts. In rural Counties, an existing Institution may serve to accommodate the able-bodied and certain miscellaneous classes, or a Receiving Home may have to be built. Where ampler provision has to be made for the able-bodied, dormitories should be planned to allow 45 to 50 square feet per person and 5 feet between bed centres, and, except in large Institutions, should not contain more than 20 beds.

### III

There should be a central dining hall, and for other day-room accommodation 25 square feet per inmate should suffice (paragraphs 238 to 240).

#### *Children's Homes.*

(77) Cottages forming Grouped Cottage Homes may be detached or semi-detached, each cottage accommodating 10 to 14 children. Dormitories should contain not more than six, or at the outside eight, beds each, and should allow a minimum floor area of 40 square feet per child and 5 feet between bed centres. Accommodation should be provided in each cottage for the fostermother, and where the number of children exceeds 10, provision should be made for a resident assistant to the fostermother (paragraphs 244 to 247).

#### *Nurseries.*

(78) In Nurseries for children under three years of age, dormitories should normally contain not more than six cots, with eight as a maximum, and the space per cot should be 50 square feet. Dayroom accommodation should be not less than 30 square feet per infant. Where large numbers of infants have to be accommodated in a Nursery, a number of self-contained blocks, each containing not more than 50 cots, should be provided (paragraphs 248 to 251).

#### *Casual Wards.*

(79) Local Authorities should not be required to provide casual ward accommodation on the basis of the exceptionally large numbers of casuals admitted at certain times of the year. The permanent accommodation provided should be related to the average number relieved each night during the year, and periods of special pressure should be met by using dayrooms as dormitories or, where the ward is attached to a general Institution, by bringing into service vacant accommodation in the Institution which can be set apart for that purpose (paragraph 253).

(80) A casual ward should be designed to deal with its special problem of a constantly changing population, and it is therefore necessary to plan the various parts of a ward so as to provide a convenient sequence of the operations following admission up to the time of discharge, to ensure cleanliness in the ward, and to facilitate supervision. We set out the accommodation which should be provided (paragraphs 256 to 260).

(81) The most economical form of construction consistent with stability and cleanliness should be adopted, but

taking into account the higher cost of upkeep of temporary structures, the risk of fire, the hard wear required, and the danger of infestation by vermin, we recommend that casual wards should be of permanent construction (paragraph 261).

#### IX.—BATHS AND WASH-HOUSES.

(82) In recent years there has been a strong and increasing demand for further bathing and swimming facilities. While recognising this trend, and with the desire to encourage swimming, we have sought to evolve a standard which would not retard the growth of demand, and yet would definitely discourage extravagance in expenditure (paragraph 270).

(83) The objections to the use of a bath building as a public hall outweigh any advantages. Wherever possible, the swimming bath should be kept open throughout the year. Where, however, there are two swimming baths in one building the needs of winter swimming will probably be met by keeping one bath open, and consideration should be given to the use of the other bath for some purpose connected with physical training and recreation (paragraphs 273 to 277).

(84) The number of slipper baths included in any scheme should be kept down to a minimum having regard to the requirements of the locality; special baths should only be provided as part of a scheme for a central bath in a large area where no similar facilities are already available within reasonable distance; and wash-houses should be included only if there is an evident demand for such a service in the immediate neighbourhood (paragraph 278).

(85) Open air swimming pools are more economical to provide than covered baths, but both types have their advantages, and it must rest with the Local Authority to decide which type is better suited to meet the needs of the locality. If, however, it is the intention to provide a bath for swimming during the summer months only, it is not easy to justify the additional cost of a covered bath (paragraph 279).

#### *Covered Swimming Baths.*

(86) We make recommendations as to the selection of a site and as to the general lay-out of buildings. Separate pools need not be provided for men and women, or as "first class" and "second class" pools. There are, however, advantages in the provision of a second smaller pool, mainly for the use of children (paragraphs 280 to 283).



(87) The size of the swimming pool is a large factor in the cost of construction of a covered bath. For the principal bath in any large town the length of the pool should be 100 feet, but a length of 75 feet should suffice for additional "district baths" where there is already a modern central bath with a length of 100 feet, and for baths in small towns. For a bath with a length of 75 or 100 feet a suitable width is 35 feet, but a width of 30 feet is sufficient for a bath serving only a small population. The depth should vary from 3 feet at the shallow end to 7 or 9 feet at the other end. The children's bath should have a minimum area of 600 square feet (paragraphs 284, 285 and 292).

(88) The increased capital cost of providing accommodation for spectators by means of an "amphitheatre" arrangement of seating is only justified in the case of large central baths where important swimming galas are likely to be held. For baths where galas are likely to be of purely local interest the bath surrounds should be made wide enough to accommodate two rows of temporary seating (paragraphs 286 and 287).

(89) We give standards for the provision of dressing boxes and lockers, communal dressing rooms, cleansing room showers, and sanitary accommodation (paragraphs 288 to 291).

(90) In the bath hall excessive height should be avoided. We make recommendations as to the construction and finish of the bath hall and swimming pool (paragraphs 293 to 296).

(91) We make recommendations as to the arrangement, construction and finishings of slipper baths, special baths, the establishment laundry, and wash-houses, and also as to the engineering services (paragraphs 297 to 312).

### *Open Air Swimming Pools.*

(92) It is not possible to suggest standards for the seaside type of open air pool, which is provided primarily as a means of attracting holiday visitors to the town, and our recommendations are intended to apply only to open air pools which are provided mainly for the local residents (paragraph 313).

(93) The size and shape of an open air pool are not governed by any considerations of the cost of an enclosing building, but a rectangular shape should normally be adopted. We do not suggest the adoption of any standard size of pool, but for a pool intended to be used chiefly by persons indulging in swimming and bathing the dimensions

recommended for a covered bath need not be greatly exceeded. Where, however, more extensive provision is made for patrons who wish to sun-bathe and to spend a considerable time on the premises, there should be a somewhat larger shallow end to the pool so that those who wish to swim are not inconvenienced by a crowd of non-swimmers, but in any case the size of the pool should not exceed 165 feet by 60 feet (paragraphs 317 to 321).

(94) We make recommendations as to the construction and finish of the pool and its surrounds, dressing accommodation, and accommodation for spectators (paragraphs 322 to 326).

(95) The heating of the water in an open air pool and the provision of flood and decorative lighting can only be justified in certain circumstances (paragraph 327).

#### GENERAL.

(96) In Appendix II we set out in tabular form the sizes of ward units and the standards of space in wards and dayrooms which we have adopted in our First Report for Acute General Hospitals and in this Report for other Institutions.

329. In conclusion, we desire to repeat the expression of our appreciation, already recorded in our First Report, of the services rendered to the Committee by our Secretary, Mr. J. A. Lawther.

ADAM MAITLAND (*Chairman*).

JOHN ALLCOCK.

A. STRACHAN BENNION.

H. W. BRUCE.

JANET M. CAMPBELL.

REGINALD C. COX.

J. FERGUSON.

HOWELL E. JAMES.

JOHN KIRKLAND.

F. BARRIE LAMBERT.

T. S. MCINTOSH.

RODEN H. P. ORDE.

L. G. PEARSON.

ARCHIBALD SCOTT.

W. REES THOMAS.

J. A. LAWTHOR (*Secretary*).

2nd February, 1938.

## APPENDICES

## APPENDIX I.

LIST OF WITNESSES FROM WHOM EVIDENCE HAS BEEN HEARD  
SINCE THE PUBLICATION OF THE COMMITTEE'S FIRST REPORT.

(See paragraph 3.)

## MINISTRY OF HEALTH.

Dr. J. E. CHAPMAN, M.R.C.S., a Senior Medical Officer.  
Dr. J. R. HUTCHINSON, M.D., a Medical Officer.

NATIONAL ASSOCIATION OF BATH SUPERINTENDENTS  
(INCORPORATED).

Mr. H. R. AUSTIN, Secretary of the Association.

## ROYAL INSTITUTE OF BRITISH ARCHITECTS.

Mr. KENNETH M. B. CROSS, M.A., F.R.I.B.A.

## ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION.

Dr. M. A. ARCHDALE, M.B., Medical Superintendent, Sunderland Mental Hospital.  
Dr. M. A. COLLINS, O.B.E., M.D., Medical Inspector, Ministry of Pensions, and formerly Medical Superintendent, Kent County Mental Hospital, Chartham.  
Dr. T. LINDSAY, M.D., F.R.C.S., Ed., Medical Superintendent, Caterham Mental Hospital (L.C.C.).  
Dr. W. GORDON MASEFIELD, D.P.H., Medical Superintendent, Essex County Mental Hospital, Brentwood.  
Dr. J. V. MORRIS, M.B., Medical Superintendent, Little Plumstead Hall, Norfolk.  
Dr. F. DOUGLAS TURNER, M.B., Medical Superintendent, Royal Eastern Counties Institution, Colchester.

---

Dr. JAMES CROOKS, F.R.C.S.  
Mr. E. STANLEY HALL, F.R.I.B.A.  
Dr. H. ROLAND SEGAR.  
Dr. ARNOLD WALKER, F.R.C.S.



## APPENDIX II.

SIZES OF WARD UNITS AND STANDARDS OF SPACE IN WARDS AND DAYROOMS ADOPTED BY THE COMMITTEE.  
(See paragraph 328(96)).

Type of Institution.	No. of Beds in Ward Unit.	Division of Ward Unit.		Single-bed Wards.		Other Wards.			Dayroom Space.
		No. of Single-bed Wards.	No. of Beds in other Wards.	Size.	Height.	Width.	Space between Bed Centres.	Height.	
<i>Acute General Hospitals</i>	30	Minimum of 4	Remainder in 2 or more wards.	10 ft. X 11 ft.	9 ft.*	25 to 26 ft.	8 ft.	Undivided long wards—12 ft. Main wards not containing more than 16 beds—11 ft. Small wards up to 6 beds—10 ft.*	Nil.
<i>Maternity Departments.</i>	Not exceeding 30	Minimum of 6.	4 to 6	120 sq. ft.	9 ft.*	25 ft.	8 ft.	10 ft.	Nil.
<i>Accommodation for Sick Children.</i>	30	Minimum of 6.	Not more than 8, but preferably 6, or even 4.	10 ft. X 8 ft.	9 ft.*	Floor area of 80 sq. ft. per patient.	8 ft. minimum.	10 ft.	Nil.

<i>Accommodation for Cases of Chronic Sickness.</i>	Up to 60, if Sister has adequate trained assistance.	6	Sufficient number of smaller wards to admit of proper classification.	100 sq. ft. sufficient.	9 ft.*	24 ft. maximum.	7 ft.	As for Acute General Hospitals.	Dayroom required except in ward units reserved for bedridden cases, its size depending on number of patients expected to be able to use it. Minimum of 240 sq. ft. suggested.
<i>Tuberculosis Institutions.</i>	Can properly vary within fairly wide limits say from 30 to 50.	About 15 per cent. to 20 per cent.	Not more than 6, or even 4.	90 sq. ft.	9 ft.*	Floor area of 80 sq. ft. per patient.	—	10 ft.	Dayroom usually necessary, its size depending on number of patients able to make use of it.
<i>Isolation Hospitals</i>	Determined by size of Hospital and the greater elasticity conferred by small units.	Two in each multiple-bed ward unit.	About 12 as maximum, but much to be said in favour of quite small wards (say, of 4 beds), especially for scarlet fever.	10 ft. X 11 ft.	10 ft.	24 ft. for wards of 6 beds and upwards, but 20 ft. X 20 ft. is suitable for 4 beds.	12 ft. minimum.	Up to 6 beds, 10 ft. Larger wards, 11 ft.	Nil.

\* Unless determined by the height of other wards.

## APPENDIX II—continued.

Type of Institution.	No. of Beds in Ward Unit.	Division of Ward Unit.		Single-bed Wards.		Other Wards.			Dayroom Space.
		No. of Single-bed Wards.	No. of Beds in other Wards.	Size.	Height.	Width.	Space between Bed Centres.	Height.	
<i>Mental Hospitals</i> :— General ...	Maximum of 50. As low as 15 to 20 for some types.	Not more than one fifth of total accommodation of Hospital.	—	—	9 ft.*	20 ft.	—	10 ft.	Dayroom standards include dining space.
Ordinary Ward Units	—	One or more.	Not more than 30.	About 65 sq. ft., with minimum width of 6 ft. 6 ins.	—	—	5 ft. minimum, with a minimum of 50 sq. ft. per patient.	—	Minimum of 40 sq. ft. per patient for total number of patients.
Admission Hospital	—	Not more than one quarter.	Wards to be small, with adjoining verandahs.	100 sq. ft.	—	—	7 ft.	—	40 sq. ft. per patient for total number of patients.
Sick Hospital ...	—	2 or 3 male, ditto, female.	Do.	85 sq. ft. minimum.	—	—	7 ft. with facilities for nursing patients on verandahs.	—	40 sq. ft. per patient for half the number of patients.



Section for Ex- cited and Dis- turbed Patients.	Maximum of 30 to 35.	About one quarter of total number of beds.	Not more than 16.	As for ordin- ary ward units, but some slightly larger.	—	—	As for ordinary ward units.	—	A little higher than for ordinary ward units. 50 sq. ft. a good standard.
Ward Units for the Semile and and Infirm.	—	—	—	85 sq. ft.	—	—	6 feet average.	—	40 sq. ft. per pa- tient for about three quarters of total number of patients.
<i>Mental Deficiency Colonies</i> :— All Ward Units except Sick Hospital.	—	—	—	—	—	18 ft.	5 ft. with a mini- mum floor space of 45 sq. ft. per patient.	—	30 ft. per patient a good standard.
Sick Hospital ...	—	—	—	—	—	20 ft.	7 ft. with facilities for nursing patients on veran- dahs.	—	30 sq. ft. per pa- tient for one-third of the number of patients.

\* Unless determined by the height of other wards.

## APPENDIX II—continued.

Type of Institution.	No. of Beds in Ward Unit.	Division of Ward Unit.		Single-bed Wards.		Other Wards.			Dayroom Space.
		No. of Single-bed Wards.	No. of Beds in other Wards.	Size.	Height.	Width.	Space between Bed Centres.	Height.	
<i>Public Assistance Institutions</i> :— Small Homes for Healthy Aged.	Groups of Cottage Homes, each for about 20 inmates.	Some	3 or 4	About 85 sq. ft.	—	Floor area of 60 sq. ft. per inmate.	—	—	25 sq. ft. per inmate, or 40 sq. ft. if dayroom is used for meals.
Large Homes for Healthy Aged.	No. of beds in Home should not exceed that in which average Superintendent and Matron can take an individual interest.	Some	Not more than 12.	Do.	—	Do.	6 ft.	10 ft. maximum	25 sq. ft. in addition to space in central dining hall.
Blocks for the Infirm in association with Homes for the Healthy Aged.	—	A few	Wards to be small.	About 85 sq. ft.	—	Floor area of 60 sq. ft. per inmate, apart from any space required for serving meals.	—	—	40 sq. ft. per inmate for about three-quarters of the number of inmates if meals are not served in the wards.
Accommodation for the Infirm in a General Institution.	—	Some	20 to 30, if large numbers have to be accommodated.	Do.	—	Do.	6 ft.	—	Do.

Accommodation for the Able-bodied.	—	—	—	Floor area of 45 to 50 sq. ft. per inmate.	5 ft.	—	25 sq. ft., in addition to space in central dining hall.
Children's Homes	Groups of Cottage Homes, each for 10 to 14 children.	One, for separation purposes.	Not more than 6, or 8 at the outside.	—	5 ft.	—	Kitchen and combined dining and day room, or kitchen-dining-room and separate dayroom.
Nurseries for Children under 3 years of age.	No block to contain more than 50 cots.	Some, for separation purposes.	Do.	—	—	—	Minimum of 30 sq. ft. per infant.
Casual Wards ...	—	Some	30 maximum	About 50 sq. ft. Some for women casuals to be large enough to take a cot as well as a bed.	4 ft.	10 ft. maximum	Minimum of 8 sq. ft. per bed.





# ROYAL SANITARY INSTITUTE

## LIBRARY REGULATIONS

1. Books may be borrowed by Fellows, Members and Associates personally or by a messenger producing a written order. The person to whom books are delivered shall sign a receipt for them in a book provided for that purpose.

2. Books may be sent through the post, or by some equivalent means of carriage, upon a written order. All charges of carriage to the Institute shall be defrayed by the borrower.

3. A borrower may not have more than three volumes in his possession at one time.

4. A borrower will be considered liable for the value of any book lost or damaged while on loan to him, and if it be a separate volume, for the value of the whole work rendered imperfect.

Marking or writing in the volumes is not permitted, and borrowers are requested to call attention to damage of this character.

5. Books may be retained for 28 days. Periodicals may be retained for 14 days. Applications for extension of the loan period must be made in writing before its expiry. No book may be kept longer than 3 months.

New books will not be lent until after the expiration of one month from the date of their having been received by the Institute. The current number of a periodical may not be borrowed.

6. Borrowers retaining books longer than the time specified, and neglecting to return them when demanded, forfeit the right to borrow books until the volume or volumes be returned, and for such further time as may be ordered.

Any borrower failing to comply with a request for the return of a book shall be considered liable for the cost of replacing the book, and the Council may, after giving due notice to him, order the book to be replaced at his expense.

No volume may be reissued to the same borrower until at least seven days have elapsed after its return, neither may it be transferred by one borrower to another.

7. Books may not be taken or sent out of the United Kingdom.

8. Volumes returned through the post must be securely packed in a box, or otherwise protected.

Parcels should be addressed :

THE ROYAL SANITARY INSTITUTE,  
90, BUCKINGHAM PALACE ROAD,  
LONDON, S.W.1.

REPORT OF THE  
**BUILDING RESEARCH  
BOARD**

FOR THE YEAR 1936

The main problems with which the Board has been concerned during the year and upon which reports are included are—

New methods of cleaning buildings.

The efficiency of clay roofing tiles.

Noise in buildings.

Colourings for stucco.

The Report contains a review of the work of the Building Research Station since its establishment. "In this short period," the Board state, "the Station has become a real factor in the building industry. Of this, the increase in the number of inquiries received annually is significant. The explanation of this rapid success is to be found, on the one hand, in the goodwill of the industry and, on the other hand, in the wide range of researches covered and in the readiness of the Station to co-operate with industry, especially in making available for application to everyday problems its accumulated knowledge and experience."

Price 4s. net.

Post free 4s. 4d.

**His Majesty's Stationery Office**

LONDON, W.C.2: Adastral House, Kingsway

EDINBURGH 2: 120 George Street    MANCHESTER 1: 26 York Street

CARDIFF: 1 St. Andrew's Crescent    BELFAST: 80 Chichester Street

or through any bookseller



THE ROYAL SANITARY INSTITUTE LIBRARY  
90, Buckingham Palace Road, London, S.W.1.

Class No. ....1Y/47

Acc. No. ....3782

This book is returnable on or before the last date Marked below.

18  
E 1 FEB 1947